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Dental Surgery and Medicine.

INJURIES AND DISEASES OF THE ANTRUM.

A paper read before the Students' Society of the Dental Hospital of London, October 21st, 1878.

By J. B. MAGOR, Esq.

MR. PRESIDENT AND GENTLEMEN,

When asked by our Secretaries to read a paper before this Society, I felt somewhat at a loss for a suitable subject. On turning over the records of the proceedings of the Society for the past few years, I found that every, or almost every subject of purely *Dental* interest had already been ably treated at previous meetings. I found, however, that the Antrum and the affections to which it is liable, had not as yet been brought before the notice of the members, and although in most of its aspects, perhaps, the subject is one which more concerns the general than the Dental surgeon, yet, as I think most subjects connected with the surgery of the maxillæ are of interest to us, I thought it worth bringing forward for your consideration this evening.

The *Antrum* was known to Galen as the *Sinus maxillaris*, or "maxillary sinus," a name which it has retained down to the present time; it was, however, first accurately described by an English anatomist and surgeon, Nathaniel or Isaac Highmore, who has left us an account of some of its diseases, with the methods he employed of treating them. From the fact that he first called attention to the subject, the sinus has been named after him, "*Antrum Highmorianum*," Highmore's cavity. Turning to 'Gray's Anatomy,' we find a brief account of the antrum in the description of the superior maxillary bone; but Gray nowhere says anything of it except as a cavity in this bone. From the works of various authors I have drawn and put together the following account of its anatomy.

The antrum, or maxillary sinus, is by far the largest of the air cells in the bones of the head, and it is worthy of note that it is the first to make its appearance in the process of development; traces of it are first met with at or about the

fourth month of intra-uterine life ; at birth it may be seen as a depression on the outer wall of the nasal fossa. None of the other air cells appear until much later in life, being almost or entirely absent in young children.

The antrum is situated in the body of the superior maxillary bone on each side of the face ; it is usually described as having the shape of a triangular pyramid, with its apex directed towards the malar bone, its base towards the nose. Its floor is formed by the alveolar process, its roof by the orbital plate, its anterior wall by the facial, and its posterior by the zygomatic surface of the maxilla. Its inner wall is formed partly by that surface of the body of the maxilla which enters into the formation of the wall of the nasal fossa, and partly by portions of the ethmoid, palate, and inferior turbinated bones, the lachrymal also helping in some cases to close it in. There is an irregular aperture, however, still left, which communicates with the middle meatus of the nose.

In the child these bony walls are comparatively thick ; at least, as regards the maxillary ones, but as age advances, they become thinner, until in adult life they are "everywhere exceedingly thin" (Gray). For this gradual thinning we shall be prepared when we remember that the antrum is formed at first by absorption of the outer wall of the nose, and increases in size by a continuance of the absorptive process. In consequence of the great tenuity of these antral walls, we constantly find them displaced by accumulation of fluid in the cavity, or by tumours growing in it.

In size the antrum varies very greatly in different subjects. Holden, in his 'Osteology,' says it is commonly large enough to hold a musket-ball with ease. Heath says an average adult antrum will hold from two to three drachms of fluid. He gives an instance, however, of an adult antrum capable of holding no less than eight drachms, and of another which would only hold one drachm. Mr. Salter says, "In some instances the antrum extends from the canine to the dens sapientiæ, and in others it may correspond only to the first molar." The cavity is commonly more capacious in male than in female subjects, and is said to diminish somewhat in old persons. But not only does it vary greatly in size in *different* subjects, the two antra of the same person may be of very unequal dimensions.

Obviously, such great differences in the size of the cavity, differences, too, which cannot be detected by mere outward examination, influence largely the ease with which we successfully treat a case of antral disease, the operator having, in many cases, to work to a great extent in the dark when

endeavouring to make an opening into the sinus from the mouth.

I mentioned just now that Isaac Highmore (who, by the way, was born in 1613 and died in 1684) gave us the first detailed account of the antrum which bears his name; as we are talking of its size, the following case of his, copied into Holden's 'Osteology' from 'Drake's Anatomy' a work published in 1707, may be interesting. "A lady suffering from toothache submitted to the extraction of the canine tooth of the upper jaw, with which a portion of the alveolar process was removed, making an aperture in the antrum, from which a watery fluid constantly issued. The patient, desirous of ascertaining the source of the discharge, took a pen, and having stripped off the barbs from the feathered part, found that the whole of it, full six inches long, could be introduced into the cavity. At this she was greatly terrified, believing it must have gone into the brain. She consulted Highmore, who explained to her that the pen had turned spirally within the sinus, and he, besides, counselled her to submit with patience to the inconvenience of the discharge from the cavity."

The general *shape* of the antrum is, as above mentioned, that of a triangular pyramid, having its base directed towards the nose, and its apex towards the malar bone; but it is subject to various irregularities of form; thus, in some instances, the cavity is even prolonged into the malar bone itself, in others, it is broken up into a number of smaller cavities, "*loculi*" or "*pockets*," by bony projections from the floor and walls. These "*septa*" or projections vary much in number and size; they may divide the cavity of the antrum into two nearly equal parts, or into several, or into a central larger space with two or more smaller ones opening into it. In all cases I believe the divisions communicate with each other. In some cases, which, however, are extremely rare, *fossæ* are formed beneath the orbital plate of the maxilla, or a *cul-de-sac* is to be found close to the lachrymal groove.

The presence or absence of these *septa* is a matter of considerable practical importance in the treatment of some antral affections; supposing a foreign body (a tooth-fang, for example) to be lodged in the antrum, if *septa* be present they will form "*loculi*" of a greater or less depth, the fang or other extraneous matter will become lodged in a *loculus*, and extreme difficulty may be experienced in removing it. Mr. Cattlin has recorded a notable example of this. Again, the breaking up of the sinus into *loculi* will greatly increase the difficulty of thoroughly and completely washing it out,

and so cleansing it from all pus and decomposing matter, the absence of which is essential to a successful treatment of the case.

The floor of the antrum usually displays some small elevations of bone covering the ends of the roots of those teeth which are situated in the alveolar ridge beneath the sinus. These teeth may be the first molar alone, or the first and second molars, or even, in the case of very large antra, all the teeth from the first bicuspid or canine, back to the wisdom tooth. In other cases, however, the roots of the molars spread up through the alveolar ridge on each side of the floor of the antrum, without coming into direct relation with it at all; while in some, if not in many cases, the tips of the roots project right through the floor into the cavity without the intervention of any bone, and are covered in merely by periosteum and the mucous membrane lining the sinus. Besides the fact that an alveolar abscess arising from one of such teeth as those last mentioned must inevitably burst into the antrum, between the periosteum and the actual cavity itself, we shall at once perceive that, in attempting to extract the stumps of teeth so situated, an operator is extremely liable to force them up into the antrum—a casualty which, if the fang were not soon removed, would lead to inflammation and suppuration of the lining membrane, and much consequent trouble to both patient and surgeon.

In consequence of the liability which undoubtedly exists, even in cases under the care of the most skilful Dentists, to such accidents, many operators are very chary of using the elevator in the extraction of the stumps of such teeth in the upper jaw as are likely to be in relation with the maxillary sinus, saying, and with much truth, that the use of the elevator is attended with more risk of entering the antrum than that of the forceps. Personally, however, if I may speak from limited experience and observation, I think the increased risk is so small, provided care and suitable elevators be employed, as not to warrant us in rejecting the aid afforded by so valuable an instrument.

The antrum opens into the middle meatus of the nose by a small opening in its inner wall, which is partly closed in by the ethmoid bone above, the palate bone behind, and the inferior turbinated bone below; and sometimes also by a small portion of the lachrymal bone between the ethmoid and inferior turbinated. The aperture left between these bones is ragged and irregular, with extremely thin edges, in the dry skull; in the recent subject it is much diminished in size by the mucous membrane, which passes

in from the nose to be continuous with that lining the cavity of the antrum. This membrane projects so much around the margins of the opening, as to leave only a small hole, or "valvular opening," as it has been called. In some subjects a second, or even a third opening is present, and is by some anatomists considered normal; but Mr. Spencer Watson quotes from a work on 'The Mucous Cysts of the Maxillary Sinus,' by M. Giraldès, a statement to the effect that the second posterior opening is always the result of pathological change.

Giraldès, after examining no less than one hundred bodies, met with a second opening in only eight or ten; and further says that he has had opportunities of following the different stages of the perforating process from the mere thinning of the mucous membrane on to the completion of the process.

The normal aperture is situated about the middle, or upper part, rather above the middle, of the inner or nasal wall of the sinus; thus it would be impossible to completely empty the antrum through this opening of any fluid which might have collected in it, even if the aperture itself did not often become closed up by the swelling of its valvular edges. It has, indeed, been proposed to catheterize the cavity through the opening, but the experiment has been tried several times without success, and is stigmatized by Giraldès as impracticable.

The antrum is lined by a mucous membrane, which is continuous with the Schneiderian membrane lining the nasal fossa; it is thin, pale, closely adherent to the subjacent periosteum, and covered with columnar ciliated epithelium, and bears some resemblance to a serous membrane. Scattered over its surface, are the openings of a number of mucous glands which lie in the cellular tissue intervening between the mucous membrane and the periosteum; these glands secrete in the healthy state a small quantity of mucus just enough to keep the surface moist. Examined microscopically, the glands are seen to be follicular, consisting of a cluster of sacs, communicating with a simple or bifurcated duct. If a portion of the mucous membrane, with the periosteum beneath it, be macerated and soaked in dilute nitric acid, the glands appear to the naked eye as opaque yellowish dots, about half as large as a pin's head. They are very abundant on the inner wall, when the mucous membrane is thicker; but elsewhere, are only few in number. Rudimentary papillæ are also met with in some parts of the mucous membrane. The blood supply of this lining membrane and periosteum is derived from the alveolar and infra-orbital branches of the sphenomaxillary portion of the in-

ternal maxillary artery, the arterial twigs entering through the tuberosity of the superior maxillary. Some blood-vessels also come to the sinus from the nasal or spheno-palatine branch of the same artery.

The *nerve-supply* to the membrane comes from the posterior Dental branches of the superior maxillary division of the fifth cranial nerve.

(To be continued.)

NITROUS OXIDE.

By W. HODGSKIN HOPE, Esq.

WITH your permission I should like to point out one or two things in connection with this subject which do not seem to have been sufficiently considered in the article appearing in last month's Journal.

Whatever fixed rules and regulations there are existing as to the administration of other anæsthetics, I cannot believe the one in question to have any; of course I am fully aware that some Dentists "make to themselves" rules, and endeavour, as far as possible, to adhere to them, but with what results I should be sorry to say. The confiction of these rules between so many must necessarily create a perplexity; at any rate, I am quite certain of this, that the symptoms presented by some patients when under the influence of the gas, although perfectly satisfactory to one Dentist, would be utterly doubted by a fellow-practitioner, so that I do not consider it too much to say that the peculiarities of constitution, temperament, and numerous other circumstances of each case, render it impossible to lay down any law as to its administration.

The natural conclusion, therefore, is, that nothing but a thorough knowledge of the gas and its varied actions, acquired by constant practice, can really avail to determine at all times the condition of the patient. In numbers of cases certain *means* are made use of that are supposed to be infallible in proving total unconsciousness, where they really do nothing of the kind. Take, for example, a few of the most prominent; the breathing becoming stertorous; inability to hear when asked to lift up the hand; insensibility of the conjunctivæ; livid appearance of the face, &c. &c. All of which *may* or *may not* be indicative of the patient being entirely insensible. I have met myself with many instances in which the breathing has been perfectly natural, the eye

delicately sensitive, the face not in the slightest changed, and the patient after once being told to lift up the hand has continued doing so to the end of the operation, which have invariably been successful. It is plain then that these signs are not to be depended upon.

The simple practice of waiting until the muscles, after having become rigid, are again relaxed, seems fraught with less confusion than any other that I am aware of, but I am still convinced that intuitive perception must play a more prominent part than the adhesion to any fixed rules.

Wellingborough.

ONE OF MANY ACCIDENTS THAT MAY ARISE IN THE EXTRACTION OF TEETH.

By F. A. HUET, Esq.

SOME few months since a patient consulted me experiencing great discomfort from a right lower anterior molar which had been stopped with an amalgam three years previously. On my examining his mouth I found the entire surface of the crown presenting one mass of stopping, and kept in its position merely by the walls of the tooth, its circumference being about the size of a threepenny piece. He informed me it was an old offender, and he had decided upon having it extracted if I would place him under the influence of the nitrous oxide gas, as the slightest pressure on the tooth gave him excruciating pain, which plainly showed he was suffering from acute inflammation of the periosteum. I administered the gas and successfully extracted the tooth, which was very firmly set, the fangs being largely developed and bifurcated. On examining the tooth immediately after its removal I discovered the amalgam stopping had disappeared and thought it must have fallen on the floor, but I soon found otherwise. The effects of the nitrous oxide gas passing quickly off, the patient presented an appearance of difficulty of breathing and began to cough spasmodically. I immediately bent him over the arm of the operating chair, keeping the head well down, and while in the act of coughing I gave him a forcible blow between the shoulders, which was the means of his shooting the stopping referred to on the floor. By adopting this course I am inclined to think I warded off a danger which might have ended seriously, and also been very difficult to diagnose. I am of opinion that I am right in coming to the conclusion that when pressure was brought on the sides of the tooth the stopping must have popped out

sideways from between the blades of the forceps and became lodged in the larynx. Since then I have been called upon on two occasions to extract teeth, under the influence of the nitrous oxide gas, containing large amalgam stoppings, both of which were too sensitive to pressure to allow of their being removed previous to extraction, and to avoid a similar occurrence I have placed a small piece of muslin over the crown before extracting. My object in mentioning this circumstance is to show that no one can be too careful in adopting precautionary measures against similar casualties which, if ending fatally, might be attributed erroneously to the influence of the nitrous oxide gas.

Mechanical Dentistry.

CHAPTERS ON MECHANICAL WORK, ILLUSTRATED BY CASES IN PRACTICE.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

(Continued from Vol. XXI, p. 540.)

ON MOUNTING TEETH.

At the present time there are three methods of mounting teeth on a metal plate commonly used in practice, namely, tube teeth, by pins, flat teeth, by plate backs, and teeth specially made for this purpose, and technically called vulcanite teeth, by vulcanite. Each has advantages over the others under certain conditions which it may be well to consider before describing the details of each method separately.

Judging from the directions given in their text-books and the teeth made by their manufacturers, the Americans do not use tube teeth at all. In England we have been in the habit of using all three methods, and are therefore qualified to judge of their respective merits.

The peculiar advantages claimed for tube teeth are, firstly, that they are readily removed so as to allow the plate to be repaired or added to by soldering at any future time, secondly, that some power of adaptation is available by letting a tooth down, allowing us to lower a tooth if too high to the bite.

There are two objections to the use of flat teeth entirely, which occur to me as probable disadvantages, but which, not being familiar with the use of these teeth for masti-

cators, I only suggest for the consideration of those who are in the habit of using them. The first is that the attachment being on one side of the tooth the support to the strain of mastication will not be so evenly distributed as in a tube tooth, which is supported entirely below, being only kept in position by a central pin running in the direction of the greatest straining force in mastication. I should therefore be inclined to think, other things being equal, that tube teeth would stand mastication better than flat-backed teeth. The second hypothetic objection is that where all flat teeth are used, and soldered round the whole arch of a plate, I fear that the unequal contraction of the unbroken bar of solder which there will be may cause that warping of the plate in soldering, which is so often spoken of in American hand-books as a dangerous difficulty.

If this is the case, as the danger occurs when there is no longer any remedy in our power but that of entirely remaking the piece, it would seem quite a sufficient disadvantage to throw the balance in favour of tube as against flat backs for the masticating teeth.

In choosing between tube or vulcanite teeth the principal determining consideration is whether any soldering, repairs, or alterations are likely to be required.

The peculiar advantages of flat teeth are, firstly, they can be made stronger for a close bite; secondly, that they may be mounted on the plate with some plastic material (Ash's cement), which will allow of their exact adaptation to position in the-mouth, which position can then be permanently and exactly fixed by soldering without undergoing any danger of alteration in the workroom. This is an advantage of immense practical importance, and one which also belongs in a lesser degree to the method of attaching teeth to a plate by vulcanite.

Another point in favour of attaching teeth by vulcanite instead of using tube teeth is that pieces so made are more cleanly, as food is apt to lodge in the interstices between tube teeth, whence it is not always easy for the patient to dislodge it, and where it soon becomes offensive.

The cost in labour of attaching teeth by vulcanite is much less than that of mounting tube teeth, but this may be considered an advantage, or the reverse, from different stand-points.

On reviewing the fitness of these methods for different conditions, I think we may draw the following conclusions.

For sets where the gum does not show and a few of the masticating teeth remain, which may necessitate an addition to the plate at some future time and perhaps the addition of

springs, if these alterations will require soldering to be done, use tube teeth altogether. Such cases, however, are not common, but one passed through my hands a short time ago which was best met in this way.

For partial gold pieces where the front teeth have to be accurately fitted to cover stumps, or nicely adjusted between natural teeth, use flatbacks for the front teeth, and tube teeth for the masticators.

Whilst for nearly all complete upper dentures and many partial ones where, if the natural teeth are lost, the case will admit of the vacancy being filled up by the same method, vulcanite will, I think, be the best way to mount the teeth.

When I entered the workroom nearly the whole work was gold and tube teeth, and the labour of putting up these formed a large part of the occupation of the pupils and workmen. The rate at which teeth could be mounted was a subject of emulation, and it was found that to mount three teeth an hour, from the time the plate was finished to the time the tooth was "fine fitted," was good work. This included rough fitting, mounting the pins, fine fitting, and finishing off the pin heads on the under side of the plate. I have known the fourteen upper teeth mounted in three and a half hours, or at the rate of four teeth an hour, but only on one occasion.

To mount tube teeth rapidly, the workman should have all his tools at hand and in good working order, as if he has to spend his time in looking for these, although he does not tire himself by working, yet the work does not get on; whereas if he does not use tools which exactly do what they are required, but uses makeshifts he will tire himself a great deal more by the work, which will then not be so well done.

Three special tools should be kept in his drawer for this work alone.

A counter-sink.—This tool is for clearing away the burr of the tube on the ground end of the tooth, and for slightly enlarging the entrance to the tube here, so that there shall be no danger of the foot of solder which slightly rises around the pin at its base from splitting the tooth. A counter-sink should be a cylindrical piece of steel so large that there is no danger of its being forced, when used, into the tube and so splitting it, but no larger, or it is inconvenient. A small rat-tailed file makes a good counter-sink, the tang stuck in a wine cork for a handle, and the other end ground to a pyramidal point with three sides.

A marker.—This must be a piece of straight cylindrical steel wire which exactly fits the tube of the teeth used. One end of this is also to be sharpened into a three-sided point.

Its use is to mark exactly the place of the centre of the pin-hole when the tooth is mounted. It must therefore fit the tube well without being tight, if too loose it will not mark truly.

The third tool is a drill which will make a hole the exact size of the pin used, so that the pin, when put in the hole, will almost stay in position without support.

To make this, take a tapering drill brooch which will pass through the pin-hole in the wire plate almost, but not quite, up to its shoulder, then break off the point leaving an inch from the shoulder, and sharpen this to a spear point in the following manner:

Grind the end from both sides to a wedge shape, allowing a quarter of an inch for the taper, then sharpen the end on the hone like a chisel, also on both sides, but keeping a square end. Still keeping a sharp edge, proceed to take off each angle by rubbing the corners on the hone obliquely until the point meets in the middle, each corner being chamfered from the opposite side.

These tools being provided, tube teeth should be mounted in the following manner:

We will suppose we have in hand a complete upper denture with the six front teeth to be let down on the gum. The two centrals should be let down on the model to the bite without the plate. They are then to be put on the plate, stuck there with a little cement, and the two holes marked for the pins, this will enable us to judge how much of the plate it will be necessary to cut away to allow the front of the teeth to cover it and reach the gum. When this has been done, the centrals are to be let down over the plate to the gum and again fixed. The laterals and canines must be let down in rotation sufficiently to mark their pin-holes before the gold of the margin beneath them is also filed back to its final position, when they are also let down into position. The masticating teeth are then proceeded with in due order, only without marking until all are mounted. Each tooth should be left a trifle too high to the bite to allow for fine fitting after the pins are up.

To let down a tooth.—Try its length approximately by holding it in position on the bite, but upside down. If much too long, cut off as much of the neck as is prudent with a small steel adze, which is generally made by grinding one end of a rivetting hammer sharp. This is done by holding the tooth on a piece of lead, marking the place of section with the thumb-nail and covering the crown of the tooth with the thumb, so as to guard it at the same time. A slight tap with the adze, allowing it to be guided to the in-

licated spot, will generally give the required fracture with sufficient exactness.

To grind a tooth rapidly, hold the edge of the tooth so that an equal amount of the two surfaces making the edge are encroached on by the weel. Continue to take off the edge all round in this way until the end of the bottom of the tooth is reduced to a cone, then truncate the cone until you get a square end to the tooth again and proceed as before. Long upper laterals or lower incisors will require shortening in this way, as if it is attempted to crack them with the adze they are very apt to smash. Having reduced the tooth to the desired length, proceed to fit it to the plate. For rough fitting before the pins are up it is not necessary or desirable to use paint. Place the tooth against the plate and mark with the eye where the tooth touches, grind this away and repeat the process. If the part which touches is out of sight grind the whole under surface of the tooth hollow; so long as the margin touches all round, the accuracy of fit is quite sufficient. The tooth being sufficiently let down by the bite, counter-sink the hole on the ground end and clear the tube well with a tube file. Now fix it firmly in its place by dropping melted cement so as to fasten it to the plate and its neighbours; Ash's cement I have found most convenient for this purpose.

The teeth being all firmly cemented in place, mark the place for the pins by passing the marker down each tooth, and rotating it whilst pressed against the plate below. Remove the teeth by warming the plate, and arrange them before you on the bench in the same order in which they stood on the plate, about an inch from the margin of the bench, so that you can take up any tooth you want directly without having to hunt about for it.

With a pair of punching pliers now punch out all the holes for the pins, taking care that the centre of the pin of the pliers is on each mark before punching the hole in those parts of plate where the plate is at right angles or makes equal angles with the pin all round. Where, however, the plate makes an acute angle with the pin on one side and an obtuse angle on the other, the hole must be punched a little way from the mark on the line of the acutest angle, or as a workman would say "up the hill on the steepest part of the plate." The amount of this allowance differs in increasing proportion to the acuteness of the angle made with the plate by the pin. Thus, for an angle of forty-five degrees an allowance of not quite half the thickness of the plate must be made, whilst for an angle of half that size a distance of nearly double the thickness of the plate is required. Prac-

tically the workman must remember that he must punch his hole, when the pin is on an inclined part of the plate, about half the thickness of his plate from the mark up the line of the steepest part of the incline, but more or less in proportion as the inclination is more or less than half a right angle, only giving more allowance in proportion as the inclination is greater than this.

Having punched all his holes he must now bore them out to the right size and direction with the drill. To do this at first pass the drill through the holes at right angles to the surface of the plate, and then rotate the drill whilst it is being brought into the direction which it is desired that the pin shall take; whilst in this position and continuing to rotate it pass the drill through up to the shoulder. The pinhole is then made, and should now have the burr removed by file and sculper. All the pinholes being finished the plate is to be placed before the workman on the bench whilst he cuts the pins. Let him take a length of pin wire in his hand and file the end at such an angle that when put through the pinhole of the last molar on one end of the plate it makes a flush surface with the under side of the plate. This precaution will save a deal of time otherwise spent in sculpering down the projecting ends of the pins after soldering. A slight notch should also be cut with the file on the end of the pin longitudinally to allow the solder to run from the upper to the under surface of the plate more readily. The end of the wire having been thus prepared for the terminal pinhole, take up the corresponding tooth, pass the wire through from the coronal end of the tube until it slightly projects from the ground end, and then with cutting pliers cut it off flush at the coronal end. This will give a wire the right length. The tooth is to be replaced on the bench with this pin besides it. The next pin is prepared in the same manner, and all the others in due order, taking care that pins and teeth are maintained in their correct positions. The next process is to place the pins in the plate for soldering. Heat and pickle the plate in acid to clean it, and then wash in water, and whilst still wet rub a little powdered borax with the finger into all the pinholes. Take a piece of binding wire of sufficient length, make one end into a small hook so that it will catch on the edge of the plate, now take the pin belonging to the end hole, wet it in clean water and insert it therein, catch the hook of the binding wire on the most convenient part of the edge of the plate, draw it tight and give it one turn around the pin, place the second pin in its hole, bring the binding wire on and secure it also by one turn, do so with all the rest of the

pins, and then fasten off the binding wire by giving it a sharp turn over the edge of the plate on the opposite end to where it was first attached. On looking at the under side of the plate it will be evident that the pins want a little adjustment before soldering to make their ends even with the surface of the plate; this is easily done.

The plate is now to be heated with the blowpipe before applying solder to it in order to fuse the borax which will otherwise displace the small pieces of solder, as it rises on being first heated. It is of some consequence to the workman to get his solder cut up to the right size uniformly. Too much solder will give him future trouble in letting down the tooth over it, while too little will leave his pins weak. A very small piece, however, is sufficient; the beginner generally errs on the side of using too much. Number three solder is always to be used in soldering up pins, as this is generally the last soldering done, and the lower the temperature to which the pins are subjected the less will the fibrous texture of the wire be destroyed. Place the plate in a firm position on the soldering coke, and place a small piece of solder at the foot of each pin so that it rests partly on the plate and partly on the pin, and run the solder with the blowpipe. It will not be generally practicable to put solder to more than a third of the pins at once. When all are soldered on the upper surface, turn the plate over and with the blowpipe draw the solder through to the under side of each pin separately. The teeth are now placed on the pins, and these are to be bent a little, one way or another, until the teeth stand in their correct positions. The bottom of the pins being in the right positions, it will only be their inclination which will require rectification. This can be done by a pair of pliers holding the pin close to the plate, a sculper, or by using the instrument designed for bending the pins of pivot teeth previously described. The teeth are next "fine fitted." To do this take the teeth off the pins and place them again on the bench in their right order. Put the plate on the model and try it in the bite, should any of the pins be too long reduce them to their proper length.

In fine fitting the teeth, begin with the centrals finishing on each side alternately. Paint may be used for fine fitting. This is made of vermillion or rouge, mixed up with a little olive oil; it should be thick, and a very little used at a time to give correct indications. For fine fitting small wheels are necessary, but it is a great mistake to use them for the rough grinding previous to the mounting of the pins. Then large coarse thin wheels of three inches in diameter are

best and they should be discarded when reduced in diameter to rather less than two inches.

When the tooth is finished letting down, the roughness of the ground edges should be smoothed by just touching this edge against the side of a fine corundum wheel in motion, drawing this edge lightly longitudinally in the opposite direction to the motion of the wheel. The end of the pin, as it comes through the tooth, may be finished off by filing it so as to show a hemispherical end, or by grinding it off flush with the surface of the tooth whilst this is in place. The roughness of the ends of the pins on the under surface of the plate is now to be reduced by the sculper and fine corundum file to a smooth surface. The plate is now ready to be polished after which the pins are to be roughened with the pliers made for the purpose, or by making a few small file cuts on each pin. A couple of turns of fine floss silk is then taken round each pin, and all the teeth having been made perfectly clean, are placed on their respective pins. The teeth are then fastened on with sulphur, in the manner too familiar to need description, and the piece receiving a final cleaning and polish is ready for the mouth.

The sulphur used for cementing the teeth in position will be made much stronger if it has been first melted for half an hour in a Florence flask and is then poured into cold water, this will change it to a light chocolate colour and make it much tougher in consistence.

(To be continued.)

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM NOVEMBER 1ST TO NOVEMBER 30TH, 1878.

Extractions	{ Children under 14	412
	{ Adults	716
Under Nitrous Oxide		293
Gold Stoppings		94
White Foil ditto		73
Plastic ditto		428
Irregularities of the Teeth treated mechanically		67
Miscellaneous Cases		300
Advice Cases		90
Total.....		2473

LAWRENCE READ,
Dental House-Surgeon.

British Journal of Dental Science.

LONDON, JANUARY, 1879.

WE have published with pleasure the letters of Mr. Richardson and Mr. Edwin Cox in this issue, and one from "A Dentist of the Fourth Generation" in our last, because they tend to ventilate one or two questions which just now are somewhat occupying the minds of several of our readers. We shall not attempt to discuss these questions, because to do so thoroughly would occupy more time and space than we can spare, especially as we have written frequently before upon the subjects referred to, and must, therefore, now leave them in the hands of any of our readers who may feel disposed to take them up; but we shall avail ourselves of the opportunity thus given, to enter upon one or two points of these questions which especially affect ourselves. First, as to Mr. Richardson's letter, although we are compelled to postpone their publication to our next issue, we are much obliged to him for the questions he has sent, and wish others would follow his example; we should thereby be enabled to encourage candidates to seek the Irish Dental diploma by showing them to a certain extent what they must prepare for. We are the more obliged to Mr. Richardson, because it was distinctly stated to us that the first batch of candidates at the Irish College were pledged not to supply us with any information respecting the nature of the examination on the first occasion in Dublin; this statement was confirmed by an official of the Irish Dental Diploma Committee. It cannot be wondered at that this foolish and most un-English proceeding naturally gave rise to very grave suspicion and severe attacks, which, however, did not emanate from us. As we have repeatedly shown—see our leading articles for August, September, October, 1878, we have always advocated extreme leniency to old practitioners from any newly-formed examining boards, such

as those of the Irish and Scotch Colleges. The English College has the character and prestige of its Dental diploma to maintain, in justice (notwithstanding the remarks of "A Dentist of the Fourth Generation") to those young men who have obtained it after years of hard work, and those old practitioners who covet the possession of it must work for it too, the only concession made to them being that they can work at home and have not to go through a curriculum away from the scene of their practice. Another thing we would point out, and that is, that however high may be the character of the *questions* the main point is what was the character of the *answers*; it is this that has been severely questioned elsewhere, and will possibly be the subject of official inquiry. We have made no comment upon the various statements that have reached us upon this subject because we have so repeatedly pleaded for leniency, and are grateful to the Irish College which has thus cut the Gordian knot of satisfying the natural cravings of the old practitioners for a diploma, and yet avoiding injustice to those who had obtained theirs by dint of hard work; for no thinking candidate can doubt the pre-eminence of the English Dental diploma over that of a College which, as Mr. Tomes says, leaves out in its proposed Dental curriculum more than half of the essentials of a Dental education, and of whose recent examinations even Mr. Edwin Cox, whilst endeavouring to plead in their favour, says that he fears in some cases it has fallen below the practical. Our space will not now permit of further remark upon his very excellent and temperate letter, but we hope to recur to it in our next, when we shall also have some important information to give respecting the course to be pursued by local practitioners who may feel themselves aggrieved by the registration of unsuitable persons.

THE IRISH DENTAL DIPLOMA COMMITTEE AND THE
ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE editor of the 'British Medical Journal' has saved us the trouble of any further reference to this unsavoury subject

by the following telling paragraph in the issue for Dec. 28th, 1878.

“The Council of the Royal College of Surgeons of Ireland have endeavoured to justify the statements of their representative at the General Medical Council, and at the same time to exonerate the Dental Diploma Committee and their own body from having been over-anxious to secure candidates at any price for their Dental examination. The resolution they had passed, after listening to the deputation from the Dental Diploma Committee, is quite equal to the very original verdict of “Not guilty, but don’t do it any more;” and the Committee, by announcing its voluntary dissolution, has endeavoured to carry out the wish expressed by the Council of the Royal College of Surgeons of Ireland. So far we have a satisfactory termination to a rather unpleasant episode in the history of Dental reform. Nothing now remains but to wait patiently for the publication of the promised financial statement of the receipts and expenditure of the funds contributed to the Dental Reform Committee by the applicants for the Irish Dental diploma.”

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, DECEMBER 2ND, 1878.

ALFRED COLEMAN, Esq., President, in the Chair.

MESSRS. R. L. MEARNS, of Ipswich, Queensland, and Walter Saunders, of Memel House, Ramsgate, were balloted for and elected members.

Messrs. Frank Henry and Thos. Gaddes were appointed auditors.

Mr. CHRISTOPHER HEATH then read a paper on “Two Cases of Hypertrophy of the Gums and Alveoli treated by Operation.” He remarked that cases of hypertrophy of the gums were so uncommon that both Mr. Tomes and himself in their respective works had referred to most of those on record. In all the recorded cases the hypertrophy of the gums had been noticed quite early in life and had been general, affecting both jaws and the whole extent of the

alveolar arch; the second of the cases he was about to relate was exceptional in this respect, for the disease was confined to one side of the lower jaw.

The first patient was a little girl, æt. 4½, sent to Mr. Heath by Mr. Coleman, and admitted into University College Hospital in May last. She was one of five children, the others being healthy. The enlargement of the gums was said to have begun two years before in the neighbourhood of the temporary molars, then just coming through, and from them it spread all round the jaw. When admitted into the hospital her general health appeared to be good, but she was said to be deficient in intelligence and was occasionally liable to fits. Her gums were enormously hypertrophied, the teeth being entirely covered, with the exception of the tips of the crown, which appeared depressed in the gums; the cavity of mouth was almost filled by them and they bulged out the cheeks on each side. The child could bite nothing hard, and had been fed entirely on liquid or pulpy food; her breath was very offensive. A cast having been taken of the mouth, Mr. Heath removed the hypertrophied gums and the alveolar margin of the lower jaw with bone forceps. On one side the first permanent molar came away, on the other it was left, not being quite erupted; the hæmorrhage, which was free, was stopped with the actual cautery. A fortnight afterwards Mr. Heath removed the hypertrophied gums and alveolar margin of the upper jaw in the same manner, and a fortnight after this the patient was discharged cured, the wounds being quite healed.

The second patient was a gentleman, æt. 26, recommended to Mr. Heath by Mr. Ibbetson in June 1877. In this case the hypertrophy was confined to about two thirds of the lower jaw, extending from the right wisdom tooth to the left canine. It had existed since early childhood, caused no pain, but produced some deformity, giving the patient the appearance of having his mouth full and making him speak thickly. Mr. Heath removed the diseased portion of the alveolar border with Liston's cross-cutting forceps; the right wisdom tooth was left, but all the teeth between it and the left canine were removed. The hæmorrhage was considerable, requiring the free application of the actual cautery; the patient recovered from the operation in a fortnight. Mr. Ibbetson subsequently fitted some artificial teeth and the patient was now in much greater comfort than before. Mr. Heath added that nothing less than the complete removal of the affected alveoli would cure the disease. Mr. Erichsen, in 1867, carefully pared off the hypertrophous gums of a little girl 2½ years old; but in 1872, when this same patient was

reported upon by the late Dr. John Murray, of the Middlesex Hospital, the growth had been completely reproduced. The case was described in the fifty-sixth volume of the 'Transactions of the Royal Medical and Chirurgical Society,' and was remarkable for the fact that three children in the same family were all affected with the same deformity. In these children also, as well as in a case recorded by Alfred Canton (given in Tomes's work), and in the first of the cases he had just read, there was defective mental power. In the child operated upon by him the condition of the gums was such as to interfere greatly with the performance of mastication, so there was no hesitation in sacrificing the temporary teeth; it was to be hoped that many of the permanent teeth escaped injury, and might be erupted in due course.

Mr. IBBETSON then sent round models of the mouth taken eight months after the operation for the purpose of restoring the teeth, and the portion of the jawbone which had been removed; the models showed the character and condition of the jawbone and soft parts, and testified to the success of the operation.

Mr. CHAS. TOMES described the microscopic characters of the morbid growth. It closely resembled in structure the small polypi which were sometimes found occupying the cavity of carious teeth. It was a true hypertrophy, chiefly affecting the fibrous portion of the tissue; it sprang from the periosteum just within the margin of the alveoli. From this point, just round the neck of the tooth, a dense stroma of interlacing fibres covered by a thin layer of mucous membrane grew up round the tooth, the growths from opposite sides meeting and coalescing over the crown, so as almost to cover it in. The fact that it grew from within the socket explained the necessity for removing part of the alveolus in order to obtain a successful result; unless this had been done the base of the growth would have been left behind, and speedy recurrence would have taken place.

Mr. WOODHOUSE said he had read in the 'Cosmos' about two years ago a description of a novel method of treating epulis. An opening was made in the growth, and a small quantity of arsenious acid inserted; the tumour then sloughed away. The cases there described were of the ordinary circumscribed form of epulis, but he thought that, by dealing with a part at a time, the same treatment might be successfully applied to the more extensive hypertrophy described by Mr. Heath.

Mr. SEWILL said he should be glad if either Mr. Heath or Mr. Tomes could throw a little more light on the etiology of this curious disease. Cases of hypertrophy of the gums of

a less extensive character than that just described by Mr. Heath were not unfrequently met with in hospital practice ; it was most common in scrofulous subjects, and was always due to dental irritation. Inflammation was set up round a diseased tooth and swelling resulted ; the former subsided entirely, but the latter only partially, and after several attacks a localised hypertrophy was left. He had seen a remarkable case of hypertrophy of the gums and mucous membrane of the lips at one of the meetings of the Medical Society a short time since ; that patient had enlarged cervical glands, evidently scrofulous.

Mr. CHAS. TOMES remarked that Julia Pastrana, the celebrated "Hairy Woman," had marked hypertrophy of the gums.

Mr. WEISS said he had examined the mouth of that extraordinary woman, and had taken models of it, which were now in the Society's Museum ; he could therefore confirm what Mr. Tomes had said, but besides the hypertrophy she had several supernumerary teeth.

Mr. HUTCHINSON said he had lately seen a very well-marked case of localised hypertrophy of the gums ; it affected the palatine surface of the tuberosity of the superior maxilla extending from the second molar to the wisdom tooth ; this was carious and was probably the cause of the enlargement. The gum appeared quite firm and healthy—not in the least tender or inflamed. With regard to the treatment of the general hypertrophy described by Mr. Heath, it seemed that simple excision of the diseased growth did no permanent good, whilst Mr. Heath's operation seemed to him somewhat severe. Mr. Tomes had said that the growth resembled the small polypi which sprang up round a carious tooth ; might it not be worth while to try the effect of the treatment which would be indicated in such cases, viz. the extraction of the tooth ? On looking at the preparation sent round by Mr. Heath it appeared that several of the teeth had been cut through. Would it not be better to make the section a little lower, or might not the portions of fang, unless extracted at the time, prove afterwards a source of irritation ?

The PRESIDENT said that no doubt hypertrophy of the gums was often due to carious teeth. There were several models in the Museum which showed this well, but the enlargement in such cases was local and not general, as in Mr. Heath's cases. When due to dental irritation the extraction of the offending tooth would generally suffice to effect a cure ; but in Mr. Heath's cases the extent of the disease and the tender age of some of the patients rendered this explanation of the cause an improbable one.

Mr. HEATH said, in reply, that although some of the teeth had been cut through in the course of the operation, it was most probable that the small fragments of fang left behind had been thrown off in the process of healing; certainly they had given no further trouble. He should have no objection to try Mr. Hutchinson's suggested treatment on some future occasion, for if it failed a section of the gum could be removed afterwards; but he had not much hope that simple extraction of the teeth would cure the disease, and he thought, therefore, that in the end the patient would suffer less pain and inconvenience by submitting to the operation which had been so successful in these cases. As to the cause he could say nothing. It was curious that there should have been three examples of the disease in one family, and that in them, and also in Mr. Coleman's case, there should also have been deficiency of intellect. In Dr. Murray's cases there appeared to have been some scrofulous taint; at least, the disease of the fingers, &c., seemed to be of this nature, but he could not say that all the cases were of strumous origin.

Mr. CHARLES TOMES then read a paper "On the Hinged Teeth of the Common Pike," which was republished in our last July issue from the 'Quarterly Journal of Microscopical Science,' 1878.

Mr. MUMMERY said that what struck him as most interesting in Mr. Tomes's paper was the exact correlation of the form of the tooth with the habits of the fish which possessed it. Thus, of the cod family, the hake lived on herrings, an active, migratory fish; whilst the other species were less particular in their choice of food, and took whatever came to hand. In the hake, accordingly, they found the structure of the teeth more highly developed than in the cod and haddock.

The PRESIDENT remarked on the exceedingly lucid way in which Mr. Tomes had described these complicated arrangements. He understood that, in all examples spoken of, the action of the hinge was merely mechanical, that there were no muscles attached by which voluntary control could be obtained. Still, this made the accurate adaptation of the teeth for the required purpose even more remarkable.

Mr. GADDES asked whether Mr. Tomes could throw any further light upon the structure of the hinge of the pike's tooth. So far as he understood the tissue did not contain any proper "elastic fibres."

Mr. STORER BENNETT asked whether the cancellous structure surrounding the base of the teeth of the "sheep's head" fish, which had been spoken of by Mr. Tomes as "calcified

periosteum," was at any period of its growth demonstrable as ordinary periosteum.

Mr. HUTCHINSON inquired as to the connections of the elastic structure at the base of the pike's tooth. Was it developed from osteoblasts like bone, or from odontoblasts like dentine?

Mr. TOMES replied that he had not been able to discover any true elastic fibres amongst the rods which composed the elastic base of the pike's tooth. This elastic tissue was developed from osteoblasts, as was nine tenths of the tooth, which had only a small cap of dentine. As to the bony scaffolding surrounding the base of the tooth of the "sheep's head" fish, it never was demonstrable as periosteum, but it exactly corresponded to the mammalian alveolo-dental membrane, both in position and in being developed from a similar organ.

The usual vote of thanks was then proposed and carried, and the meeting adjourned."

ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, 14TH NOVEMBER, 1878.

DAVID HEPBURN, Esq., L.D.S., President, in the Chair.

THE minutes of the Annual Meeting having been read and approved of, the Secretary said that, as instructed at last meeting, he had had a list of the members printed and circulated with the billet.

THE PRESIDENT said—At this time last year I took occasion to draw your attention to the objects and aim of this Society, which was designed to elevate the profession and raise a higher standard of moral and intellectual activity among us. Since then a great advance has been made in this direction by the passing of the 'Dental Practitioners Act,'—an Act which has realised the aspirations of many of the most earnest workers in the profession, and given a fresh impetus to the whole body, which cannot fail to influence for good this and all similar societies. Of the gentlemen to whose indefatigable labours and untiring energy we are mainly indebted for this great boon to the profession it is not my present intention to speak, as I hope and believe a fitting time and place will be found, when the whole body will, through a more able channel, express its indebtedness to those men. Meanwhile, I think it only right and proper that the Odonto-Chirurgical

Society should, at this its first meeting, mark its appreciation of these services by passing a cordial vote of thanks to Mr. Tomes and those who laboured with him. We are also indebted to the Royal College of Surgeons here for its acceptance of that measure, and especially for the desire shown, as evidenced in its proposed Curriculum for Dental Students, to keep the profession up to a high level, and carry out the Act in all its integrity. The universal title to registration which it gives and enforces, at once places all practitioners upon an equal platform, and settles many vexed questions that have hitherto proved a bar to unison and progress. It remains now to be seen how large a number will show themselves abreast with the times, by sustaining the dignity of professional men conferred upon them, and bringing themselves and their modes of practice in accordance with those unwritten laws of honour which are understood to guide all who hold that position. Those who aspire to this would do well at once to conform to the rules of this or the Odontological Society; and, by becoming eligible for membership, enjoy the advantages and privileges which naturally flow from connection with such societies. I would, therefore, impress upon members the desirability of making their influence felt in this direction,—not in the interests of the Society only, but in that of the profession generally.

The new and hopeful prospect now opened up to the profession will, I trust, gentlemen, encourage us to carry on the work of this Society with renewed energy and vigour.

On the motion of the PRESIDENT a cordial vote of thanks was given to Mr. Tomes and the Reform Committee for their exertions in securing the passing of the Dental Practitioners Act.

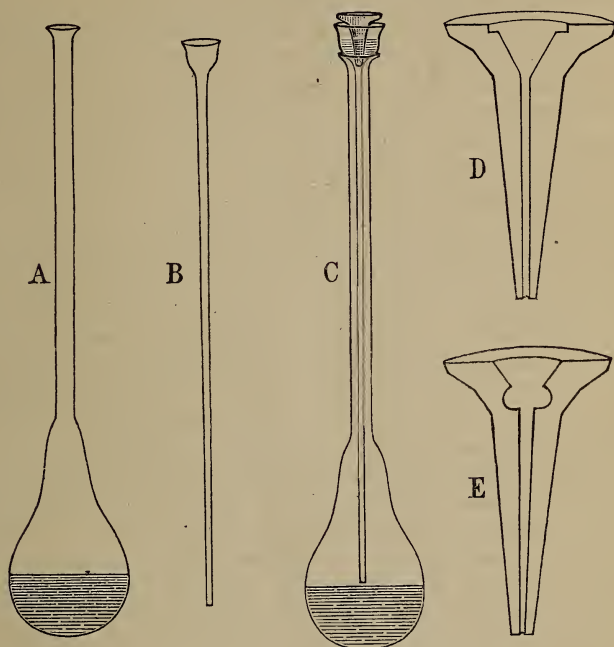
The PRESIDENT then proposed in the name of the Council, that a sum of Ten Guineas be voted to the funds of the new Dental Hospital and School. This having been seconded by Mr. WILLIAMSON, was carried unanimously.

Mr. J. R. BROWNLIE, L.D.S., then read a paper on "A method of testing Amalgam and other Fillings by Atmospheric Pressure."

As the means employed to determine the existence and extent of shrinkage in amalgam may have a decided influence upon our estimate of the value of the results obtained, I have thought it might be interesting and of advantage to submit for your consideration a test, sufficiently simple and direct in its action, and which seems capable of throwing additional light upon the merits of this much debated question.

So far I have been employing it only in a general way, and with the view of ascertaining its value as a test, but even to

this extent the investigation is not without interest. The distinctive feature of it is the employment of air to detect and measure the extent of any fault in the junction of the filling with the walls of the cavity. Although devised for testing amalgams, it is quite capable of being applied, equally well, to all kinds of fillings.



- A Flask, reduced to one fifth size.
- B Test Tube, reduced to one fifth size.
- C The pieces arranged in position.
- D Cone-shaped Cavity in Vulcanite, actual size.
- E New form of Cavity, by which a filling is made air-tight.

The apparatus consists of three pieces :—A long-necked flat-bottomed glass flask ; a length of fine glass tube, having a small cup formed on one end ; and a piece of vulcanite of the form and somewhat larger than an incisor tooth, *minus* the crown,—or a small piece of glass tube properly shaped may be substituted for this piece.

The cavity into which the amalgam is filled is excavated in the larger end of the vulcanite, and the smaller end is made fine enough to enter and fill the mouth of the tube in the bottom of the glass cup. A small hole is drilled from

the bottom of the cavity out through the smaller end of the vulcanite. Where it leaves the cavity the drill-hole is fitted with a screw, which fills it up while the cavity is being filled. The cavity may be made any size. The diameter of those on the table is about a quarter of an inch, and the depth somewhat less. To prevent the amalgam entering around the sides of the screw a cap is required, which must be something which will prevent the amalgam working out of the cavity around the end of the screw, and at the same time yield when contraction takes place. When the cavity is filled the screw is withdrawn, and the specimen is ready for testing. The pieces are then arranged in the following way :—The flask is nearly filled with water, and the tube let down into it until it is suspended by the cup-shaped enlargement on the one end; both ends of the tube being open, the water of course rises and nearly fills the tube,—it ought to stand a little above the uppermost of two lines cut on the glass a little way down, and somewhat apart, to mark off a portion of the tube through which the water has to fall. By the aid of a little floss silk and a drop of shellac varnish, the smaller end of the piece of vulcanite is then luted into the opening in the bottom of the cup, and the joint is made air tight by pouring water into the cup. If colouring matter is added to the water any defect in the joint will be immediately apparent.

Everything is now ready, and if the tube be raised almost out of the flask and supported there, or transferred to an empty flask, the water will fall in the tube, through the entrance of air by any crevice between the amalgam and the walls of the cavity, with greater or less rapidity, in proportion to the accuracy with which the amalgam fills the cavity. If the time is noted during which the water falls through the part of the tube marked off by the two lines above referred to, we have thus the means of knowing, with the greatest nicety, the degree of contraction which has taken place, or to what extent we are successful in applying our fillings to the walls of a cavity.

The possibility of error involved in the foregoing procedure is extremely slight. The use of vulcanite will, I think, be generally conceded as satisfactory, when, as in the pieces on the table, a stout rim is left around the end in which the cavity is made. Short of employing violence no change in its form is possible, and any change of temperature through handling may easily be avoided. The junction of the vulcanite with the glass tube, as just described, has in every instance been quite satisfactory. When the vulcanite is fixed in position there is an open communication between a part of the lower surface of the specimen and the interior of

the tube, and the only way by which air can effect an entrance, if it get in at all, will be between the filling and the walls of the cavity.

However careful we may be in regard to the mechanism of any test we may apply to amalgam, manipulation must always influence the result to some extent. The actual change which takes place is so small that it may be lost sight of altogether from very trifling causes. Practice, however, will in time enable one to overcome this difficulty. With the utmost care, at first the amalgam seemed to act in the most eccentric fashion: latterly these eccentricities have diminished, and the results have been obtained with very considerable regularity. To those who may wish to make use of this means of investigation for themselves, I would suggest that, until the same result can be brought out with any one form of amalgam at least twice in succession, there is reason to doubt, not the sufficiency of the test, but the similarity of the manipulation. As already observed, I have employed this test only in a very general way, but in a few instances it has been the means of throwing additional light upon certain problems connected with the use of amalgam, to some of which I would now ask your attention.

With such an arrangement as this, the freedom with which air will penetrate a crevice, into which water can hardly be got to enter even under slight pressure, may be very neatly illustrated by wetting the surface of the amalgam and the vulcanite, so that the joint may be completely covered at the time the air is passing through it. The descent of the water in the tube is immediately arrested. On a former occasion I ventured to question the value of tests which depended for their efficacy upon the entrance of water into the crevice formed by the contraction of the amalgam. The above experiment sufficiently illustrates this point, and serves to direct attention to the greater reliance which may be placed upon air as a means of detecting unsuitable materials for fillings.

The cavities first operated upon were cylindrical in shape; but, as it is quite possible that in such a case contraction might affect the fitting around the walls of the cavity without disturbing the contact of the amalgam with the bottom of it, the form of the cavity must be considered. What is wanted is a cavity in which no contraction of the amalgam can take place without opening a direct communication between the outer air and the interior of the test tube. For comparative examinations glass would most likely prove the most suitable material, but for our present purpose vulcanite is more convenient, and the form which has answered best is the inverted cone shape. To prevent the amalgam settling down into the

bottom of the cavity as it contracts, two or three notches must be cut in the sides and near the top. In this way the surface of the amalgam becomes the fixed point, and the contraction tends not only to separate the filling from the sides of the cavity, but it lifts the apex of the conical plug of amalgam out of its socket, and away from the point by which the air finds entrance into the test tube.

In devising a form of cavity in which it is possible to control the direction of the contraction in a filling, a question of very considerable practical importance suggested itself, viz. whether the cavity in a tooth might not be so shaped that the shrinkage of the amalgam, so far from being a source of weakness, could be rendered inoperative, or made even a means of adding to its usefulness in the preservation of decaying teeth. Many practitioners reserve amalgam for teeth too largely decayed to admit of any special form being given to the cavity, but wherever we have the opportunity of giving it the required form, it is quite possible so to shape the cavity that contraction may prove a gain, and be made to second our efforts to arrest decay. The plan followed to prevent the filling settling down into the cone-shaped cavity as described above requires only to be reversed, and the amalgam made to contract in the opposite direction. By firmly fixing the lower end of the filling, so that it cannot move, the contraction will take effect downwards, or towards the bottom of the cavity. If the sides of the cavity are made to contract evenly towards the bottom, it follows that the amalgam will be, by the fixedness of its lower end, drawn down into the decreasing space, and may thus be made to fill it completely, and even with a degree of pressure upon the walls of the cavity.

The foregoing description presents a typical case, but the principle may be applied in less well-marked cases by simply leaving a sufficiently marked constriction about the lower end or centre of the cavity, and giving it a funnel-shaped mouth. In this way a stud is formed, which in contracting embraces firmly the centre portion of the walls of the cavity which project into it. For the worst form of cases it is generally possible to obtain a fixed point in the bottom of the cavity, and to counter-sink the margins.

We have here on the table an instance of what can be done in this way. The cavity in this piece of vulcanite was cut by a superheaded drill, cutting a cavity the sides of which have about the same inclination as the sides of an equilateral triangle; the lower part was enlarged and undercut, so as to retain firmly this part of the filling. It was only when this degree of slope was given to the walls of the

cavity that the joint was made perfectly air tight, this specimen having supported its column of about fourteen inches of water for several days in succession at the same level.

The pressure obtained by the use of water in the test tube is quite sufficient to produce action unless when the cavity has been formed to be air tight, but by varying the form of the apparatus a little, so that mercury can be employed, a greater pressure can be obtained without having to employ an inconveniently long tube.

Of the many ways in which this test may be made useful, the foregoing instances may serve as examples. My present purpose was rather with the test itself than with what has been done with it. In the course of these proceedings, however, several hints as to how certain changes are brought about have been obtained, and one of these indications has guided us to a somewhat satisfactory conclusion in regard to—

The Protrusion of Amalgam Fillings.

The subject of protruded amalgam fillings is not one of those falling to be investigated by the process just described. Several of the specimens operated upon, however, having exhibited this condition, and one of them having been produced at one of our meetings last session, I may be allowed very briefly to introduce the subject here. I was not prepared at the time to do more than show that the protrusion in the case submitted was not due to the causes set forth in the paper then under discussion. Further investigation has quite removed any lingering doubts regarding this somewhat interesting feature, and on the table I have placed several natural teeth containing amalgam fillings, which appear to demonstrate clearly the true causes of this untoward change.

Of the six teeth on the card three of the cavities were cavities of decay; the other three were cut in the sound dentine. No difference was made in the filling of them, or in their subsequent treatment. The treatment consisted simply in exposure to moisture, and varying the temperature within the limits to which fillings are exposed in the mouth. Nos. 1 and 2 had been kept in water till within two hours of filling them, so that they were partly dried when filled. The cavities are cut in sound dentine; the pulp of the one has been removed, that of the other left in its place. Treated as above neither of them show any symptom of protrusion.

No. 3 had been kept dry for a length of time before

having a small cavity cut in the sound dentine of the neck of the tooth, and which does not reach the pulp cavity. Under the same treatment as the two former this also remained unchanged.

No. 4 had also been kept dry. It presents a slight protrusion on one side, and an open crack in the enamel on the other, showing the force with which the amalgam has been pressed outwards. The cavity here is a cavity of decay, and some of the disorganised dentine was left in the bottom of it.

No. 5, partly dried, like the two first, previous to filling, shows a protrusion from a cavity of decay, which, like the former one, had some decaying dentine left in the bottom of it.

No. 6 was also a cavity of decay, partly cleared out, the tooth having been completely saturated with moisture previous to filling; the amalgam remains unchanged.

The most noticeable feature in these six cases is the total absence of change where the filling rests on sound dentine. In those cases moisture alone has failed to dislodge it. Some medium is wanted through which the moisture might act, and that medium is found in the bottom of the other three cavities, viz. the partially disorganised dentine. So long as the dentine remains sound and good, the fluid contained in its tubes does not cause expansion. It is contained in natural channels, and not absorbed by the substance of the dentine. While undergoing decay, however, the fluid is no longer contained in the dentinal tubuli, but permeates the whole substance of the disorganised part, producing expansion.

The behaviour of the amalgam in the teeth numbered 4, 5, and 6, together with the total absence of change in the three first, leaves no room to doubt that it is to this expansion of the decaying dentine in the bottom of the cavity that we must attribute the protrusion of amalgam fillings, the pressure exercised by but a small amount of it being sufficient to disturb the filling.

Finally, to restore the filling to its original position, dry the tooth, and it will press back into its place.

On the proposal by Dr. ROBERTS, seconded by Mr. WILLIAMSON, the thanks of the Society was given to Mr. BROWNLIE, and in doing so the PRESIDENT remarked that the test combined great simplicity with great delicacy.

Mr. BROWNLIE exhibited a pair of lower canines with well-marked double fangs.

Mr. WILSON, in bringing forward a cast of the upper jaw of a boy under five, who had had *six* well and regu-

larly developed incisors, said that the little patient had been brought to him with the right central and first lateral necrosed, the apex of the lateral root protruding through the gum and cutting the lip. In removing the lateral, the feeling of a fracture showed that there had been cemental union of the two roots for the greater part of their length, and he removed the central root also. In showing them the roots, he said he was sorry that he had not been able to take them out entire, as it would have made a better specimen. Cases of six temporary incisor teeth seemed very rare, this being the only one he had met with in fully thirty years. He also exhibited the cast of the front part of the upper jaw of a lady whose incisor teeth and one canine all showed a tendency to have an inner cusp, the other canine having an inner cusp so much developed as to dwarf that of the second bicuspid next to it. The patient informed him that some years ago, when the denture was more entire, the peculiarity had been noticed also by a Dentist, who had taken an impression, but she did not recollect his name. He hoped this notice would lead to its coming to light again.

Mr. WATSON.—Mr. President and Gentlemen, I wish to bring before your notice a very good specimen of the jaws of the white shark, *Carcharias*. As you are aware, it belongs to the cartilaginous group of fishes, although they have a thin layer of true bone deposited on outside of their skeleton. The teeth are somewhat triangular in form, serrated and covered with enamel, and are inserted by their base into the dense fibrous membrane covering the inner surface of the jaws. The teeth are very numerous in all the shark family—the present specimen, which is evidently a young animal, has 113 in upper, and 97 in lower jaws. The marginal teeth are hinged, and in some of the species the second and third rows also, which enable them to give way before any substance taken into the mouth, and becoming erected again prevent the exit of it. I have here a fresh specimen of part of the anterior portion of lower jaw of the angler fish *Sophius piscatorius*, showing beautifully the hinged teeth in this animal: the marginal teeth are ankylosed to the jaw, the inner ones only being hinged.

The shark is constantly shedding and renewing its teeth, which accounts for the numerous fossil specimens found in the cretaceous strata. The manner of their renewal is exceedingly novel and interesting. The tough fibrous membrane to which the teeth are attached slides gradually upwards over the inner surface of jaw, carrying with it its armament of teeth, so that those teeth developed at the

base of jaw are gradually carried upward till they reach the margin, and are cast off as soon as the succeeding row reaches the edge. In jaws in the fresh state the developing teeth are covered over and protected by a fold of the mucous membrane, which is not well shown in the dried specimen, owing to its being so shrunk.

The PRESIDENT exhibited cast of upper and lower jaws, taken from the mouth of an African dwarf named General Adonis Coffee, and who he understood was now in England. The models, with photograph, was sent for presentation to the Society by Mr. Bell, Grahamstown, an honorary member who states that the General was born at Pratoria, Transvaal Republic, is now in his twenty-fourth year and is thirty-seven inches in height, but gives no further particulars. The upper jaw seemed normal in size, and contains the usual number of teeth, though very small—so small, indeed, that the incisors and canines had all the appearance of temporary ones. The lower showed large spaces where the canines ought to be, and two bicuspid were wanting. He thought as the General was in this country, some of the members might have the opportunity of seeing him, and so obtain a clearer notion of the case than they could possibly get from the models.

The meeting then adjourned.

DENTAL REFORM COMMITTEE.

GENERAL MEETING, HELD SATURDAY, DECEMBER 7, 1878, AT THE
DENTAL HOSPITAL OF LONDON, LEICESTER SQUARE.

JOHN TOMES, Esq., F.R.S., in the Chair.

THE minutes of the last meeting were read and confirmed.

In reply to a letter from Mr. Spence Bate, of Plymouth, advocating the use of the initial letters D.L.R.C. instead of L.D.S. or L.D.S.R.C.S., the president said that in conformance with the wording of the Act, the title must be L.D.S.

Letters of thanks with the replies were then read, addressed to the Royal College of Surgeons, the Duke of Richmond and Gordon, and the Marquis of Lansdowne, for their assistance in obtaining the Act.

The following letter of congratulation was also read from the Scotch Dental Education Committee, and a reply was directed to be forwarded :

8th August, 1878.

To the President of the Dental Reform Committee.

SIR,—At a meeting of the Scotch Dental Education Committee, held this evening at 5, St. Andrew's Square, Edinburgh, it was unanimously and cordially resolved "That the hearty congratulations of the Scotch Dental Education Committee and the profession at large are due, and are herewith accorded, to the Dental Reform Committee, on the successful issue to their long, patient, and wise labours in the interest of the Dental profession, and that while the Scotch Dental Education Committee hold themselves under a deep debt of gratitude to each individual member of the Dental Reform Committee, they cannot refrain from specially acknowledging the invaluable services of John Tomes, Esq., F.R.S., their honoured President, and James Smith Turner, their energetic and indomitable Hon. Sec."

I have the honour to subscribe myself, sir,
W. BOWMAN MACLEOD.

It was then resolved "That a letter of thanks should be engrossed on vellum and sent to Sir John Lubbock, for his aid in obtaining the Dental Act of 1878." The following is a copy :

To SIR JOHN LUBBOCK, Bart., M.P.

SIR,—The members of the Dental Reform Committee wish to express their gratitude to you in acknowledgment of the generous interest you have taken in promoting the systematic cultivation of Dental surgery. While they are conscious of the difficulties which beset the progress of a measure introduced by a private member, they also feel that to no other member could the Dental Practitioners Bill have been entrusted with an equal chance of its successful passage through the House of Commons. The Dentists Act places under the control of the medical authorities and the General Medical Council an outlying branch of surgery, the practitioners of which have hitherto acknowledged no authority, common rule, or educational standard. For this Act the Dental profession is indebted to you, and for it, as a representative body, the members of the Dental Reform Committee, one and all, offer you their sincere and hearty thanks.

We have the honour to be

Your obedient servants,

JOHN TOMES, F.R.S.,

President of the Dental Reform Committee.

J. S. TURNER, *Hon. Sec.*

London; Aug., 1878.

The PRESIDENT then said that he had written to the President and Council of the Royal College of Surgeons of England, saying that "the main purpose for the furtherance of which the Dental Reform Committee was called into existence has been fulfilled in the Dental Practitioners Bill, which received the Royal assent July 22nd." It now remains for the Committee to tender the sincere thanks of the Dental profession to the Council of the College for its very efficient support of the Bill. The letter then proceeded to ask for the repeal of the resolution excluding from examination those who had advertised since 1859, and prayed for uniformity of curriculum for the Dental diploma throughout the United Kingdom.

The PRESIDENT then observed that though the Medical Council had most thoroughly and zealously taken up the new duties imposed upon them by the Dental Act, yet it was evident that they were not, all of them at least, familiar with the details of Dental education nor with the requirements of Dental education. It was therefore the duty of this Committee to furnish them with all needful information. He had therefore informed the Council that he had addressed to the various examining bodies a plea for uniformity of education and examination of candidates for the Dental diploma, and had also called the attention of the Council to the necessity of a careful consideration as to which, if any, of the American Dental qualifications should be registered. A comparison of the English, Scotch, and Irish curricula, in a tabular form, had also been laid before the Medical Council, from which it would be seen that in the proposed Irish curriculum he should say that Dentistry was apparently left out, or, at all events, more than half left out, but their Committee had, in a resolution, expressed a hope that the Irish College would reconsider their scheme and make it equal to that of England and Scotland.

The PRESIDENT said he had also observed to the Council, that examination of American Dental authorities on the subject did not justify the prediction of the Rev. Dr. Haughton (the representative of the Dublin University), made in his speech thereon at the General Council's meeting on October 18th, that in America it would soon be a penal thing for a man to practise Dentistry there if he were not also a surgeon or physician. But they contain strong evidence in favour of the opinion that sooner or later the American Dental colleges will become associated with the medical schools, and that the Dental diploma of the future will, in America, indicate, as the Dental licentiatehip does here, that its possessor has received a general and special education, differing in kind,

but not in degree, from that of the general surgeon, and "furnishing sufficient guarantees of the possession of the requisite knowledge and skill for the efficient practice of Dentistry or Dental surgery."

Mr. TURNER having read the two resolutions adopted by the Executive Committee,

Mr. STEEL proposed the adoption of the first resolution, viz. "The Committee views with great regret and disappointment the low standard of professional education set forth in the Dental curriculum of the Royal College of Surgeons of Ireland, and in consideration of the great injury the Dental profession will receive if the aforesaid curriculum, particularly that pertaining to the special studies, be carried into effect, the Committee hopes that the President and Council will reconsider the question for the purpose of placing the Irish course of Dental education in all respects upon a level with that which is in effective operation in England." He said, it is most important that there should be no sort of competition between the colleges in existence, but there should be uniformity of practice throughout.

Mr. STEWART.—I shall have great pleasure in seconding it. I think it is highly desirable in the education of young men that they should not have the option of going to one particular college, through, perhaps, a little inadvertence now.

Mr. O'DUFFY said that though he had at first opposed the resolution, he should, in view of the desire of the Committee, refrain from moving any amendment.

The resolution was then agreed to.

Mr. ROGERS then proposed the second resolution :—"This Committee hereby declare its conviction that the prevalence of a lower standard of Dental education than that organised by the Royal College of Surgeons of England and at present in operation, would lessen the practical efficiency of the Dental practitioner and lower his professional position ; that the Committee confidently hopes the General Medical Council will exercise the powers vested in it by the Dentists Act, and maintain throughout the United Kingdom a uniform standard of Dental education, at least equal to that at present in operation in England, and which experience has proved will not be more than sufficient to secure a professional competence in those who have conformed to its rules."

Mr. BROMLEY seconded the motion.

After some conversation this resolution was put and carried.

A resolution was then proposed by Mr. ROGERS, seconded

by Mr. BROMLEY, and carried, asking the Medical Council to maintain the standard of Dental education, as organised by the Royal College of Surgeons of England.

The PRESIDENT observed that the Medical Council had the power of doing this by calling in to their assistance the Privy Council, which is absolute in its power. There had been some difference of opinion as to the powers conferred by the Act, and the Committee had therefore taken counsel's opinion upon the subject, and from that it appeared that there was nothing in the Act to prevent the institution of various examining boards, but they they might be called upon to render an account of their proceedings to the Medical Council. That, moreover, the Act could only be regarded as provisional so far that, until the 1st of August, 1879, it is not an offence for an unregistered person to take the title of Dentist &c., and that, until the same date an unregistered person could recover fees which, after August 1st, 1879, he could not.

In reply to some inquiries from Mr. Steel, the Chairman pointed out that if, as was stated, many persons had been entered upon the Register who were not entitled to be there, as, for instance, unqualified assistants to chemists, there was ample provision made in the Act for the removal of his name, and particulars of such cases should be sent to the Registrar of the Medical Council.

Mr. DENNANT.—In your very admired and exhaustive reply to Mr. Steel's question you have not alluded to a point which has been in my mind, and which I have mentioned to persons here, with reference to chemists calling themselves, as some are already doing, registered Dental surgeons. According to your opinion expressed just now it would appear that if any one might legally call himself a Dental surgeon or surgeon Dentist prior to this Act, that he may still continue to do so provided he is registered. But if that is the case, it is to my mind an element of very great weakness, and would tell very unfairly upon the younger branches of the profession who are passing through their curriculum, I think, for any men who have no sort of professional qualification to be allowed to call themselves to the public registered Dental surgeons.

Mr. PARKINSON.—That only applies to the past.

Mr. DENNANT.—They are doing it now.

Mr. PARKINSON.—Up to the time of the registration.

Mr. DENNANT.—It is a question whether something might not be done to prevent that or counteract it.

The PRESIDENT.—You might put it in this form—that a legal opinion shall be taken on that point, because I am no

lawyer. If you put it to the meeting that a legal opinion shall be taken upon a certain point that you advance that would help us, but I am afraid I cannot help you. It may be so in a narrow and close interpretation of the law. I can only take the general sense; it was not so intended, it is contrary to the spirit of the Act, but whether a person could be punished is a question that I cannot undertake to answer. Whether it is a legal offence I cannot tell you; a moral offence to my mind it certainly is.

Mr. STEEL.—Did I understand you that a person being prosecuted and convicted before a magistrate of having improperly allowed his name to be placed upon a register, not only can his name be removed under such circumstances, but, that, on the name being submitted to the Medical Council, they themselves are authorised and empowered to remove the name on evidence that may be given to them?

The PRESIDENT.—The Act is exceedingly explicit upon that point. "The General Council shall cause to be erased from the Dentists register any entry which has been incorrectly or fraudulently made. Where a person registered in the Dentists register has, either before or after the passing of this Act, and either before or after he is so registered, been convicted, either in Her Majesty's commission or elsewhere, of an offence which, if committed in England, would be a felony or misdemeanour, or been guilty of any infamous or disgraceful conduct in a professional respect, that person shall be liable to have his name erased from the register." "The General Council shall, for the purpose of exercising in any case the powers of erasing from, and of restoring to, the Dentists register the name of a person or an entry, ascertain the facts of such case by a Committee of their own body, not exceeding five in number, of whom the quorum shall be not less than three, and a report of the Committee shall be conclusive as to the facts for the purpose of the exercise of the said powers by the General Council."

Mr. STEEL.—It is very clear, and I am much obliged to you for your explicit reply. I think the facts are most ably set forth by you, and the profession at large will, no doubt, value them highly.

Mr. DENNANT.—For the purpose of testing the feeling of the meeting I would propose that counsel's opinion be taken on that point as to how far chemists and others who hold no professional qualification at all may be entitled to call themselves registered Dental surgeons.

Mr. UNDERWOOD.—I want to ask a question before that motion is put. According to the Act pharmaceutical chemists are entitled to register themselves as Dentists and

Dental surgeons if they have practised in conjunction with their business Dentistry. In this case that Mr. Dennant has mentioned, if a suppository case, it would be only applicable where the so-called chemist has never practised Dentistry at all. But supposing a chemist has been in the habit of taking teeth out and putting up on one side of his window "Dentist," that man is surely entitled to register. It is true eventually we shall get rid of these—and we know there are a good many—men who are practising as Dentists.

Mr. TURNER.—Is he entitled to call himself a registered Dental surgeon?

Mr. UNDERWOOD.—If registered under the Act it appears the Act gives him power to call himself a registered Dentist.

The PRESIDENT.—The Act says he may call himself Dentist, but not Dental surgeon. "Any person who is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or Dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, shall be entitled to be registered under this Act."

Mr. UNDERWOOD.—If a man is registered under the Act he is at liberty to call himself either Dentist or Dental surgeon.

Mr. STEEL.—If it can be shown afterwards that he had no right to register—

Mr. UNDERWOOD.—That is another matter; we are dealing with the question of those who were held to be entitled.

The PRESIDENT.—You had better refer to this clause:—"If a person takes or uses the designation of any qualification or certificate in relation to Dentistry or Dental surgery which he does not possess, he shall be liable on summary conviction," and so on. There is the clause.

Mr. VASEY.—I understood Mr. Dennant to mean that they are using those terms at the present time, that is no offence. The Act does not come into force until 1879.

Mr. CHAS. TOMES.—The only way in which we can at all usefully ask for an opinion about it is whether the use of such words as registered Dental surgeon can be held to be the assumption of a title of a qualification, otherwise he is unquestionably able to call himself so.

The PRESIDENT.—He will have to be registered as having been in practice before the passing of the Act.

Mr. STEEL.—It is a question whether, being on the register, he is entitled to call himself a surgeon Dentist or Dental surgeon in virtue of registration.

Mr. TURNER.—I do not think he is entitled to do that by virtue of registration; he is not entitled to do it without

registration, and I do not think any registration confers that title.

Mr. STEEL.—I think the Act states a person not registered is not entitled to use those? and perhaps the reverse would be implied as to those who are registered.

Mr. STEWART.—If a chemist and druggist has been practising Dentistry he becomes by registration a Dental surgeon.

The PRESIDENT.—I do not think it conveys that; he registers for exactly what he says, but if he is a licentiate he registers himself as a licentiate, and thereby there is a distinction.

Mr. PARKINSON.—I think under the register he would register as practising Dentistry in combination with pharmacy.

Mr. DENNANT.—I will move that the President be requested to take a legal opinion upon the point that I have alluded to, whether the use of such words as “registered Dental surgeon” by persons who hold no diploma can be held as the assumption of a title to which they have no claim, so as to infringe the clauses of the Act. I should prefer to leave the precise form of the question to the President.

Mr. ROGERS.—I will second that.

Mr. VASEY.—May I draw attention to Clause 5:—“A person registered under this Act shall be entitled to practise Dentistry and Dental surgery in any part of Her Majesty’s dominions,” and so forth. The qualification we get from the College of Surgeons, if licentiate in Dental surgery qualifies us to use the words “Dental Surgeon.” If a man registering under this Act is entitled to practise Dentistry and Dental surgery, surely he must be entitled to call himself Dentist or Dental surgeon. You cannot practise Dentistry and Dental surgery without being a Dentist and Dental surgeon by Act of Parliament. Rest assured of this, no Act would ever have got through the Legislature if it had been retrospective. I spoke to a number of members, both of the Lower and Upper Houses, and the first point mentioned by every one was invariably, “nothing retrospective.” One member went the length of speaking to me about a man who practised as a Dentist, and he said, “Should you interfere with that man?” I said, “No,” and that they must be left as Dentists and Dental surgeons I am quite clear.

Mr. RYMER.—I think the Act answers Mr. Dennant’s question; there is scarcely any need to go to the expense of an opinion.

Mr. VASEY.—Can a man be allowed to practise Dentistry

and Dental surgery without being recognised as a Dentist and Dental surgeon?

The PRESIDENT.—The only question is whether “Dental surgeon” is a paraphrase of “L.D.S.”

Mr. UNDERWOOD.—That is a question, but reading this Act it does not appear to be so. If a man is allowed to be registered he is entitled to call himself a Dentist or a Dental surgeon. I have no objection to the motion, and we have plenty of money.

Mr. DENNANT.—I shall be very sorry to have any money wasted; I am afraid we shall have great need for it.

Mr. CHAS. TOMES.—The only clause which directly touches it is this:—“If a person takes or uses the designation of any qualification or certificate in relation to Dentistry or Dental surgery which he does not possess, he shall be liable on summary conviction,” and so forth. This does not take the designation of any qualification or certificate that a man does not possess. That appears by inference to settle it. A man is liable to conviction if he takes or uses the designation of any qualification or certificate in relation to Dentistry and Dental surgery which he does not possess, so that unless he takes the designation up or certifies, he by inference is not liable.

Mr. TURNER.—The question is not at all so clear to me as to some gentlemen who have spoken.

Mr. VASEY.—The man gets on the register, and is allowed to remain on the register. What designation would you give him if he was allowed to practise Dentistry or Dental surgery—what would you call him?

Mr. TURNER.—He is a registered Dentist, as he was before the Act. The licentiate is a Dental surgeon; this man is a registered Dentist in practice before the Act.

Mr. VASEY.—Then you permit by that view a man to practise Dental surgery without being a Dental surgeon.

Mr. TURNER.—Yes, you have to do it. There is nothing new in it, it was done long ago.

Mr. CHAS. TOMES.—I should suggest that the question to be asked should be: “Is the assumption of any title or any form of words other than the designation of an existing diploma or certificate a penal thing under the Act?” It seems to me that would narrow the thing down into more useful limits, because there is a clause in the Act which appears to me to settle the thing. There is no doubt if he assumes the designation of a particular diploma he is liable to punishment. The only remaining question is, is he liable to punishment if he invents a new form of words which is not the designation of a particular diploma.

Mr. STEWART.—I suppose the term “Dental surgeon” only came into existence on the passing of the Act?

The PRESIDENT.—It gradually got into use after the College of Surgeons granted diplomas. They were all “surgeon Dentists” before that. The only question is whether “L.D.S.” can be taken as meaning the same thing as “Dental surgeon.”

Mr. STEEL.—We might argue for a long time as to the particular form this question should assume. I think it is left in a very safe way if it is in your hands to frame the question as you think best.

The resolution was then agreed to.

On the motion of Mr. UNDERWOOD it was resolved “That the reply given by the President to the question brought forward by Mr. Steel with reference to registration should be printed and placed at the disposal of the Committee.”

The Treasurer, Mr. PARKINSON, stated that their receipts up to that time amounted to £564 8s. 6d. and the payments £289 19s., leaving a balance in hand of £274 9s. 6d. The Treasurer was authorised to pay some small outstanding debts amounting to £13.

Mr. RYMER proposed, and Mr. DENNANT, seconded a vote of thanks to the President for the very able manner in which he had conducted the business of the meeting. This was carried by acclamation. Adjourned.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

THE Royal College of Surgeons of Edinburgh having, in accordance with the provisions of the Dental Act of 1878, arranged to hold Examinations and grant a Diploma in Dental Surgery, the following gentlemen have been elected as the Dental Examining Board :

Dr. P. H. WATSON, Pres. R.C.S.E.	Dr. ROBERTS.
F. B. IMLACH, Esq., F.R.C.S.E.	Dr. ORPHOOT.
Dr. JOHN SMITH, F.R.C.S.E.	Dr. HOGUE.

The Examinations for the Dental Diploma will consist of a Preliminary Examination in General Education, and a Professional Examination.

The Professional Examinations will be held at the conclusion of the ordinary Surgical Examinations of the College in January, April, July, and October, and will consist of a first and second examination, and be both written and oral.

The Preliminary Examination must have been previously passed, with the exceptions laid down in the regulations; and intending candidates must lodge their certificates and fees

with the Secretary, before the Saturday preceding the first ordinary Surgical Examination of the College, and before the Tuesday preceding the second.

Candidates who were in practice before the 1st day of August, 1878, and those not in practice but who had commenced their apprenticeship before the 1st day of August 1875, may be admitted for examination *sine curriculo*, but must pass the Professional Examinations on the same subjects, and in the same manner as is required for other candidates.

Regulations for candidates will be issued in a few days, and may be had from the officer at the College.

(Signed) JOSEPH BELL, Secretary to the College.

REGULATIONS TO BE OBSERVED BY CANDIDATES FOR THE DENTAL DIPLOMA OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Fees, &c.

THE fee for the Dental diploma shall be ten guineas. Each candidate, for the first examination, shall pay to the Secretary of the College the sum of four guineas not later than nine a.m. of the Saturday preceding the ordinary Examinations; and in the event of a candidate being unsuccessful two guineas will be returned to him. Where the candidate is successful the sum of four guineas will be considered as paid to account of the diploma. Each candidate for the second examination shall pay to the Secretary of the College the sum of six guineas not later than nine a.m. of the Tuesday preceding the second Examination; and in the event of his being unsuccessful three guineas will be returned to him. No candidate will, if unsuccessful, be remitted for a shorter period than three months. These Rules will apply to any subsequent rejection.

Examinations sine Curriculo.

Candidates who were in practice before the first day of August, 1878, or those not in practice but who had commenced their apprenticeship as Dentists before the first day of August, 1875, and who are unable to furnish the Board of Examiners with the certificates of lectures and hospital attendance required by the foregoing regulations shall produce—

1. A certificate of moral and professional character, signed by two registered medical practitioners, together with the full name, age, and address of the candidate.
2. The date of commencing practice or apprenticeship as a Dentist, and whether, if in practice, such practice

has been carried on in conjunction with any other business, and if so, with what business.

3. Whether he has any degree or diploma in medicine or surgery, and if so, from what college or university, or other body, and at what time it was obtained.
4. The particulars of professional education.

The President's Council shall, on such information being afforded them, determine whether or not the candidate is entitled to be admitted to examination for the Dental diploma, and such examination shall, with the exception of the preliminary examination, and the exemptions in favour of registered medical practitioners, as before explained, be passed on the same subjects and in the same manner as is required for other candidates, and will confer the same privileges.

By authority of the College,

JOSEPH BELL, F.R.C.S.E.,

Honorary Secretary and Treasurer,
20, Melville Street.

Surgeons' Hall, Edinburgh, 1879.

Miscellaneous.

GENERAL MEDICAL COUNCIL.

We are informed that up to Dec. 31st 1878, inclusive, 4650 persons have registered under the Dental Act; but there remains besides a large and troublesome mass of incomplete cases awaiting connection and further investigations. It must be remembered that in all future cases the fee for Registration is five pounds and not two, as heretofore.

DENTAL REGISTRATION.

Particulars to be supplied by applicants under Section 37 of the Dentists Act (1878), that is to say, for Apprentices whose articles expire before January 1, 1880.

I request to be registered as a Dentist, by virtue of the provisions in Section 37 of the *Dentists Act* (1878), for which purpose I submit the following particulars:

Date of commencement of Articles

Date of expiration of Articles

Amount of premium paid

Name and Address of Dental }
Practitioner to whom articulated }

Applicant's Name in full

Applicant's Address

Date of Application

, 187

N.B.—Along with this paper, duly filled up and signed, each Applicant must send (a) an authenticated copy of his Articles; (β) a certificate, from the practitioner named in the Articles, to the

effect that the conditions therein set forth have been duly fulfilled; and (γ) the registration fee.

Provided the foregoing details are satisfactory, Apprentices may be registered, *after the expiration of their Articles*, on applying to the Registrar of the General Medical Council, W. J. C. Medical Council Office, 315, Oxford Street, London, W.

[For further particulars inquirers are referred to p. 670 of our issue for December, 1878.—ED. B.J.D.S.]

DENTAL TEACHERS' MEMORIAL TO THE GENERAL MEDICAL COUNCIL.

IN consequence of the insufficient Dental curriculum proposed by the Irish College of Surgeons, which does not include Dental Anatomy, and requires only nine months, Dental hospital practice, the following Memorial has been signed by the past and present Dental Teachers, and forwarded to the Medical Council.

“To the President and Members of the General Medical Council.

“Gentlemen,

“We, the undersigned members of the Dental profession, who individually are or have been engaged in professional teaching, hereby declare that in our opinion the requirements of the Dental curriculum originated by the Royal College of Surgeons of England are not in any respect in excess of the educational necessities of the Dental practitioner; and we trust the General Medical Council, as the authorised guardians of professional education, will not assent to or allow the institution of a Dental education in any way inferior to that which has been brought into effective operation by the aforesaid College.”

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE next Dental examination in writing for this College will commence on the 21st of February, and the *viva voce* examination will be held on the 24th.

Extract from a letter to Mr. Tomes from Mr. Trimmer, bearing date 13th December, 1878.

The Council, having referred your letter to the Board of Examiners in Dental Surgery to report thereon, and having received the report from the Board, adopted on the 14th ultimo the following resolution, and confirmed the same at their meeting held yesterday, viz. December 12th:

“That, as recommended by the Board, all candidates for the Diploma in Dental Surgery, who either were in practice

as Dentists or had commenced the study of Dentistry before the 8th September, 1859, be, if approved by the Board, admissible to examination, provided that they can show that at no time subsequent to the 22nd July, 1876 (the date of two years before the passing of the Dentists Act), they have made use of advertisements or public notice in a manner which in the opinion of the Board is objectionable."

I am, dear sir, yours faithfully,
(Signed) EDWARD TRIMMER, *Sec.*

Mr. LUTHER HOLDEN, senior Vice-President, R.C.S., has been elected a member of the Dental Board, as Mr. Savory declined being put in nomination for re-election.

NEW INVENTIONS.

NEW VULCANIZING APPARATUS AND PRESSURE GAUGE.—We have seen at the office of the Dental Manufacturing Company, Limited, their Patent Combination Vulcanizer and Press for Celluloid and Rubber, to which is attached the Company's Patent Self-Acting Gas Regulator and Pressure Gauge Combined, the whole forming the most efficient apparatus for working either celluloid or rubber that we have seen.

The apparatus is made sufficiently large to take two flasks, having a strong clamp capable of holding two flasks at a time, or by changing the screw equally suitable for one flask.

The apparatus has several important features; one being its non-liability to strain during the closing of the flasks, the internal pressure on the clamp being exerted independently of the boiler. It has been often remarked that there is considerable danger in closing flasks in a boiler under a heavy pressure of steam, in consequence of the possibility of injudiciously using the enormous power at command on possibly an already closed flask. In the apparatus before us, however, no such danger exists.

The flasks are removed from the boiler *in the clamp*, and it rests with the operator as to how long they shall remain under pressure to cool.

By having a relay of clamps and flasks, vulcanizing may be repeated without loss of time.

THE GAS REGULATING PRESSURE GAUGE is the thing the profession has been seeking. The internal temperature of the boiler may be *maintained at any point* from 10 to 150 lbs. pressure, the latter being a higher point than is required for vulcanizing.

No sudden increase of gas supply can effect the temperature in the boiler, the gauge being sensitive to the least variation.

The simple turning of a thumb-screw (which, by-the-bye, is so placed as to be quite out of the way of being touched accidentally, and which, if desired, could be under lock and key) will enable the operator to increase the heat from one temperature to another at will. This we find especially useful in making thick lowers, where it is desirable to retain the heat at a low or *cooking* temperature for a considerable time.

As an additional satisfaction a place is left for our old friend the thermometer, though his presence has now become unnecessary.

We cannot help thinking that this entire apparatus forms one of the most important improvements in Mechanical Dentistry contributed for many years.

APPEAL ON BEHALF OF THE WIDOW OF THE LATE MR. PHILIP CAFFERATA, L.D.S., OF SUNDERLAND.

	£	s.	d.		£	s.	d.
Amount acknowledged in				Mr. Franks	0	2	0
Journal received to De-				Mr. G. Weaven.....	0	10	6
cember 10th, 1878	37	4	6	Mr. G. Henry	1	1	0
Mr. Ashworth	0	2	6	Mr. W. Margetson	1	1	0
"J. C. B."	2	0	0	"Dental Assistant".....	0	2	6
Mr. E. Keys	0	5	0	Miss J. and A. Churchill...	2	2	0
Mr. J. Holland.....	1	0	0	Mr. W. G. R.	0	10	0
"Friend".....	0	2	6				

Contributions will be most thankfully received by Mr. BREWSTER, Dental Manufacturing Company, 25, Broad Street, Golden Square, London. W., and will be acknowledged in this Journal.

The list will close with our next issue.

APPOINTMENTS.

MR. WM. LLOYD POUNDALL to be Honorary Dental Surgeon to the Brighton and Hove Dispensary; also to be Honorary Dental Surgeon to the Brighton, Hove, and Sussex Throat and Ear Dispensary.

JOHN LAWS, Esq., to be Dentist to the Weymouth and Dorset County Royal Eye Infirmary.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

THE DENTAL DIPLOMA.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Most of your readers will, I think, agree with the views expressed in your last issue by "A Dentist of the Fourth Generation." It has always seemed to me that the only examination to which old and reputable practitioners can reasonably be subjected should be simply and thoroughly practical. When they commence their professional education (say twenty to thirty years' ago) there were no Dental hospitals—no Dental School with its staff of lecturers and curriculum of studies. Dental practitioners were disunited, almost unknown to each other, a few only desiring and striving to find some bond of union and means of mutual culture and elevation. During their apprenticeship they were confined almost exclusively to mechanical work, and when they commenced practice they found mechanical skill the primal condition of success. They also found that the struggle for success and the growing responsibilities of life so far exhausted their time and energy as to leave very little for scientific study. To the majority no school of medicine or university was accessible. Under these conditions, to demand more than a practical examination would have been, and is, unreasonable and unjust. Such, I take it, was the judgment of the

Royal College of Surgeons of England, and the result was what are called the "years of Grace." The examination during those years was, I believe, simply and strictly a practical one, embracing mainly the eruption, extraction, and tissues of the teeth; their chief anatomical features and connections, filling, and the most frequent forms of Dental pathology, with their treatment. I believe, too, the examiners were as courteous and considerate as their sense of duty would allow. Those candidates who (like myself) had the good fortune to be examined at the Dental table by the late Arnold Rogers (and the same remark could doubtless be made by others respecting all the examiners) will never forget his kind and reassuring manner, or how rapidly he proposed the most practical and work-a-day questions. I know that these same ordeals have been frequently called "merely formal," but if so, the less excusable was the neglect of those who declined to undergo them. One thing at least may be affirmed, viz. that the high character of the examiner is a guarantee that the examination was for all practical purposes adequate and searching. Could it reasonably have been more or less? Subsequently, and as regards old practitioners, I think, unwisely, the standard was so materially raised that many shrank from it, afraid of a fiasco, others attempted and failed, and a few succeeded in passing it. Had the examination remained (for old practitioners) what it was, and had the College of Surgeons avoided excessive stringency in regard to advertising, it is probable the Irish diploma would never have been heard or thought of. It is not, however, surprising that men scorning to be numbered with the quacks yet possessing no legal distinction from them, conscious, too, of their equality with many who possessed the coveted English diploma, yet finding that diploma begot with, as they hold, unjust barriers, should apply elsewhere for a professional test and professional honours. As to the character of the Irish test, I will only say, that if it has been less than thoroughly practical, it has been, as your correspondent says, "too lax and easy," and therefore disreputable. From the report of several who have passed it I gather a different conclusion. In their case at least it was as practical, if not more so, and certainly more theoretical than the examination of old practitioners by the College of Surgeons of England during the period I referred to. I fear, however, in some cases it has fallen below this, and has deserved the indignant though somewhat undignified outcry of metropolitan critics. No Dental examination is worthy of the name unless it be searchingly practical; less than this is a mockery, more would be unjust.—I am, &c.

EDWIN COX.

68, Fishergate, Preston.

P.S.—Does "extraction" constitute a Dentist? I find that Chemists and Druggists (and even their assistants) who only extract have been supplied with "Forms."

[All who applied were supplied with forms. Whether they could honestly fill them up is another matter.—Ed. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—As there is an evident desire to disparage the first Dublin examination for the Dental diploma on the ground of the (presumed) elementary nature of the questions put to the candidates, I beg to forward a few that I was required to answer orally on that occasion, which I venture to think will show that it was not of quite so superficial a character as it is represented to have been. I leave out the usual questions in anatomy, physiology, and histology, and confine myself to those of a more practical nature. Yours, &c.,

Derby.

FRANK RICHARDSON, L.D.S.I.

[Want of space obliges us to postpone the publication of these questions to our next issue.—Ed. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you kindly inform me whether pupils who wish to be registered before August, 1879, will have to pay £2 or £5. Also when application may be made for their registration forms. And, by so doing, oblige,

Yours, &c.,

STUDENS.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 13s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.

ANSWERS TO CORRESPONDENTS.

“OLD MOLAR” and others are thanked for advertisements cut from local papers, but they are of little value unless the name of the paper and the date is written upon them. Those who send papers will oblige by bold markings of the part they wish to draw attention to.

Mr. H. GABRIEL (Liverpool).—Not Dental news.

W. F. BRINDLEY (Sheffield).—No one can obtain the Dental diploma of the R.C.S.E. without curriculum, unless he was in practice prior to September, 1859, and has not advertised since July 22nd, 1876.

THOMAS MAHONE.—We must refer you to Mr. Tomes' remarks at p. 36, and to our next issue.

W. H. SKEET (New Zealand).—We have sent the money to Mr. Turner, Secretary of the Dental Reform Committee, 12, George Street, Hanover Square. Thanks for your communication, which will appear in our next.

McDOWELL.—We have no space to spare for further correspondence on this subject.

Communications received from Secretary of Odonto-Chi. Soc., Secretary of Odon. Soc., John Tomes, F.R.S., F. H. Balkwill (Plymouth), F. Richardson (Derby), W. H. Skeet (New Plymouth, New Zealand), J. Hardie (Alloa), T. Mahonie (Sheffield), “Old Molar,” “Operator,” W. Hodgskin Hope (Wellingborough), McDowell (Preston), F. A. Huet (Manchester), W. Lloyd Poundall, Dr. Smith (Edinburgh), Joseph Selvey, Edwin Cox, W. F. Brindley (Sheffield).

BOOKS AND PAPERS RECEIVED.

‘L’Odontologia.’

‘Glasgow Medical Journal.’

‘Journal of the Chemical Society.’

‘Le Progrès Médical.’

‘The Missouri Dental Journal.’

‘Transactions of the Illinois State Dental Society.’

‘The Dental Register.’

‘Transactions of the Odontological Society.’

‘The Dental Cosmos.’

‘Le Progrès Dentaire.’

‘The Monthly Review of Dental Surgery.’

‘The Doctor,’ Dec. 1st.

‘Chemist and Druggist.’

‘On Loss of Weight, Blood Spitting, and Lung Disease,’ by Horace Dobell, M.D.

British Journal of Dental Science.

No. 272. LONDON, FEBRUARY, 1879. VOL. XXII.

Dental Surgery and Medicine.

INJURIES AND DISEASES OF THE ANTRUM.

A paper read before the Students' Society of the Dental Hospital of London, October 21st, 1878.

By J. B. MAGOR, Esq.

(Continued from page 6.)

LET us now leave the anatomy of the antrum, and consider some of the more important diseases in which it may become involved.

Taking first those affections which alone we, as Dental surgeons, are likely to be called on to treat, the chief is that commonly known as "Abscess" of the antrum, or more correctly as "Empyema" of the antrum, or—

Suppuration in the Antrum, a collection of pus in the antral cavity. This disease may occur at any age; but we most frequently meet with it in middle-aged persons, and associated with a strumous or weak constitution, when dependent directly on inflammation of the lining membrane.

It may be divided into two varieties, the treatment of which, however, is practically the same, though the causes which produce them are different. One is that mentioned above, as arising from inflammation of the lining membrane and consequent secretion of pus; the other, that in which pus finds its way into the sinus from neighbouring parts, and consequently most frequently lies between the lining membrane and the bone. This will, of course, merge into the first variety, as the presence of pus beneath the lining membrane and periosteum will be likely to cause them to inflame.

The *causes* of inflammation of the lining membrane are various. It may arise from the spreading of inflammation from the periosteum covering the root of a tooth impinging on the sinus, or from the membrane of the nasal cavity; and

may be, in the latter case, due to syphilitic, catarrhal, or herpetic inflammation. It is, however, rarely met with in connection with syphilis. The inflammation of the nasal mucous membrane arising from variola or smallpox will also occasion it. Another cause, and a very frequent one, is the presence of some foreign body, which will often be a tooth-fang, which has been forced into the cavity in an attempt at extraction. An enumeration of the various foreign bodies which have been recorded as giving rise to cases of antral inflammation is by no means devoid of interest. In one case the foreign substance was a large insect, which an old woman, an inveterate snuff-taker, had somehow got into her antrum; in another several whitish worms and some fœtid fungus; in two others plugs of lint from the sockets of extracted teeth (and this, I think, should lead us to be very careful in plugging the sockets of upper molars for the relief of alveolar hæmorrhage &c.); in a fifth case a nail from the breech of a gun which had burst when fired; while in a sixth recorded case a piece of the breech of a gun had lodged in the maxillary sinus for many years, causing severe inflammation and suppuration. There is a well-known case in most of the books on the surgery of the face of a new-born child which had inflammation of the lining membrane of the antrum, apparently from pressure of the cheek on the pubes of the mother during labour. Spencer Watson says he has seen two similar cases of antral abscess in very young children, which he attributes to causes of a like nature. Severe injuries from blows, wounds, &c., may also give rise to this affection, as may caries or necrosis of the alveolar process.

The most common cause, by far, of *empyema* of the antrum, speaking of that variety in which the pus may be lodged between the periosteum and the bone, is alveolar abscess from diseased teeth. If the periosteum covering the root or roots of a tooth be directly continuous with that lining the antrum, of course the matter will burst directly into the cavity, but in other cases it will often bore through the intervening bone, raise the periosteum from the floor of the antrum, and form a sac containing the matter from the abscess. Teeth widely separated from the antrum will sometimes cause it to be filled with matter; indeed, this condition may be dependent on any tooth in the upper jaw. Mr. Tomes ('Dental Surgery,' p. 635) mentions a case, occurring in an out-patient at the Middlesex Hospital, in which a central incisor became the cause of an alveolar abscess which burst into the antrum, and quotes from Dr. Latimer ('Dental Cosmos,' January, 1870) an instance of both antra being affected by two laterals, which were filled

over exposed pulps. Nasal polypus, obstructing the nares, and polypi, growing in the antrum itself, have been known to lead to empyema antri.

Cases of inflammation of the lining membrane due to catarrhal affections of the nasal passages are usually mild in their character and easily controlled.

Over-use of mercury has been said to affect the lining membrane, but the statement needs to be confirmed by observation.

The *symptoms* of antral suppuration are—dull, deep-seated pain, occasionally of a sharp, shooting character, with a sense of weight and fulness of the part, tenderness of the bone, and apparent lengthening of the teeth; swelling in the sulcus between the cheek and the alveolar ridge; swelling and tenderness of the cheek; some swelling about the zygoma. Constitutional symptoms are also present if the case be at all severe, and are those attending the progress of inflammation in other parts of the body—fever, varying in amount, and often accompanied by slight rigors. Other symptoms may be present, as flattening, or even convexity of the palate, an escape of matter from the nostril of the side affected, or the expectoration in the morning of lumps of purulent, foetid material which have formed in the throat from the matter which has dripped from the posterior nares during sleep. In very severe cases the eye may be protruded, through bulging upwards of the floor of the orbit; in later stages of such a severe case we may get the matter bursting into the mouth, or through the cheek, or close to, or even into, the orbit. I should have said that the above-mentioned signs of flattening of the palate and swelling, will not be found in the milder cases, or in any case until a considerable quantity of matter is present. If the bone around be rendered very thin, fluctuation may be present.

Suppuration in the antrum may be confounded with ozæna if the discharge finds its way into the nose. Means of diagnosis are—the presence of one or more decayed and unhealthy teeth or stump on that side of the mouth, flow of pus increased by inclining the head to the healthy side; examination of the nasal passage with the nasal speculum, when pus may be seen to ooze from the aperture communicating with the antrum.

Again, it is important to be able to distinguish between the presence of matter and that of solid growths in the antrum. Our means of diagnosis are—the escape of fluid on puncturing with a grooved needle or fine trocar if the case be one of suppuration; the absence in such a case of much displacement of the subjacent teeth, which are often

greatly shifted by the growth of tumours; the state of the teeth on the affected side; and the effects of time on the state of the case, for if there be a malignant growth it will generally spread so rapidly as not to remain long confined to the antrum. Slowly-growing tumours are, however, sometimes accompanied by suppuration, caused, no doubt, by the irritation set up by their presence, as happened in a case under the care of Mr. Liston, who, in making a diagnosis, punctured the antrum; pus escaped, leading to the inference that the case was one of simple so-called abscess; but it was found that there was a fibrous tumour present; this was removed, and in it was a small cavity filled with pus; this cavity had been perforated by the trocar in making the exploratory puncture.

(To be continued.)

ADMINISTRATION OF NITROUS OXIDE.

By ALFRED COLEMAN, Esq., M.R.C.S., L.D.S.

HAVING employed the apparatus constructed for me by Messrs. G. Barth and Co. for more than a year I am now able to speak with confidence as to its capacities, and this I can do in almost unqualified terms, as I never had such successful results with any other.

I believe the chief element in this success has been in copying the plan adopted by Mr. Clover in his apparatus, viz. in having the inhaling bag as near to the face of the patient as possible, and also by having a stop-cock (A) of capacious dimensions. All who are experienced in the administration of nitrous oxide, are aware of the fact that to succeed readily it is most necessary the patient should obtain the gas without inspiratory effort and without any admixture of air. This can only be carried into effect by having the gas so handy that when the face-piece is applied the patient's mouth and nostrils are surrounded by an atmosphere of nitrous oxide of perhaps a slightly greater tension than that of the surrounding atmosphere, but not much greater, as I have found by experience a considerable pressure of gas very uncomfortable and impeding to easy respiration.

The face-pieces (B)—I employ three sizes—are made of unyielding metal, and although they may occasionally allow a little gas to escape at the sides of a prominent nose upon a thin face, have the great advantage of not breaking away at the sides. On inspecting those in use no one could tell they had ever

been used.* It is, however, most important in this arrangement to have strong and rather capacious water or air pads.



There is but one valve to the face-piece, and this an outlet valve. I prefer it to be simply a flap of india rubber and capable of being closed by turning a cap, the arrangement of Messrs. G. Barth and Co. In inhaling the gas the elasticity of the *solid* rubber bag prevents return of the gas to it to any extent until the valve cap is closed, when it must so return. This is generally done as the patient approaches unconsciousness, and when, as the experiments I carried out some years ago proved, the products of respiration are almost pure nitrous oxide gas. In this manner a great economy in the gas is effected without in any way impairing the results. Before using my present apparatus I generally added a little ether vapour to the gas as anæsthesia approached, by the arrangement shown, when operating for two or more teeth;

* I have recently had sent me by Messrs. G. Barth and Co. a face-piece made wholly of india rubber, and which appears quite free from the liability to break away, as in the case of thin metal and leather.—A. C.

now I hardly ever do so, as this for all but extraordinary cases answers so well with gas alone. The ether apparatus might, however, be, and with advantage, very much simpler than I now have it; experience always enables one to simplify in such matters. I would recommend it be of metal, and of course well fitting to prevent loss of gas, but capable of receiving within it a bottle of ether into which the tube conveying the gas may dip; in cold weather it could be surrounded with warmwater, doing away with the outer vessel intended for this. After using the ether the bottle should be removed, corked, and put away without any waste or trouble.

I cannot speak too highly of the manner in which my ideas were carried out by Messrs. G. Barth and Co., but there is no necessity for having them carried out in so expensive a form; without in any way departing from the principles involved, a much cheaper form of apparatus could be produced.

THE RECENT INVESTIGATIONS OF THE COMMITTEE ON ANÆSTHETICS.

Communicated by J. CROOKS MORISON, Esq.

As is well known a committee, aided by a grant from the British Medical Association, is now engaged in Glasgow investigating the action of anæsthetics.

On the 17th of January, Dr Joseph Coates, one of the committee, gave an interesting account to the University Medico-Chirurgical Society of the results of their recent observations. There were present the other commissioners, viz. Prof. McKendrick and Dr Ramsay.

An ingenious machine has been used for simplifying the observations as to the action of the different agents on the heart. It consists of a double acting pump with two cylinders placed horizontally, so that, when the handle is turned, air is forced from cylinder No. 1, through an india-rubber tube, and then withdrawn by cylinder No. 2, the actions of the two cylinders alternating. Supposing it is desired to experiment on a rabbit, it would be fastened on the "rabbit-board" and the heart exposed by incisions through the anterior wall of the chest. A tube connected with the india-rubber pipe from the pumping machine would be inserted in the trachea and artificial respiration set going. The appearance of the heart would be noted, and then a Wolff's bottle, containing the anæsthetic to

be tested, introduced into the circuit. The agent is, in this manner, administered in a steady and conclusive way and the air is saturated with its vapour. Chloroform so exhibited causes depression in the action of the heart and stops it altogether in about one minute in rabbits; but ether, and some other substances mentioned afterwards, could be given for an indefinite time without any effect on the heart. So decided was the action of chloroform in retarding pulsation that it was given, generally, by the committee to put an end to the life of animals after they had been experimented on by less injurious compounds.

Numerous substances had been investigated, such as pyrrol, benzine, methyl and ethyl chloride, &c., but though many had good qualities the only ones which will probably be of value are isobutyl chloride (C_4H_9Cl) and ethedene dichloride ($C_2H_4Cl_2$). Frogs, rabbits, and dogs were experimented on with these substances with the greatest success. More rapid than ether in taking effect and yet possessing its harmlessness to the heart, nearly as rapid as chloroform and without its frequent unpleasant after-effects, they seem to give promise of being most valuable anæsthetics. The experiments on the lower animals were conducted in the most testing manner. Even after administering ethedene dichloride for forty minutes no effect was produced on the heart's action, nor was respiration disturbed though anæsthesia was complete. Within the last few days it has been administered to patients in the Western Infirmary with encouraging results, but of course time must elapse before its properties are sufficiently known to warrant its general use. It is much in its favour that it possesses the united good qualities of chloroform and ether without the danger of the former or the disagreeable effects of the latter. In only one case in the infirmary was there vomiting, and it was found that the patient had indulged in a hearty breakfast contrary to orders; the same anæsthetic was again administered to the same patient and no vomiting took place. When the sphygmograph was applied to the wrist of a patient under the ethedene, no reduction of arterial tension was noted, nor did the heart seem in any way affected. In fact, all the good results found after observations on the lower animals were confirmed by experiments on the human subject.

After warning his hearers against drawing too sudden conclusions from what was at present unfinished work, Dr. Coates concluded his remarks.

Professor McLeod made a few observations about the safety of chloroform, impressing on the audience the necessity for extreme caution in its use, and in the use of all anæsthetics.

When skilfully administered he thought it was a safe agent, but, nevertheless, every time it was given he felt it to be a menace against the life of the patient. Since commencing practice, many years ago, he had seen several new anæsthetics brought forward, which were each to supersede chloroform, but still the latter was in its old position.

Professor McKendrick thought that chloroform could not be called a safe anæsthetic. Hardly a week passed without our hearing of deaths from its use. He was at a loss how to account for the fact, unless its disastrous effects were caused by the formation of some new compound in the chloroform when it was exposed to the action of light and air. After some remarks by a distinguished professor in the University, who commented on the careless fashion in which chloroform was given in all the London hospitals, and attributed the great number of fatal cases in the metropolis to this want of caution, the meeting was closed by a vote of thank to Dr. Coates.

341, Bath Street, Glasgow.

CASE OF FACIAL PARALYSIS ARISING FROM A CARIOUS TOOTH.

By WM. LLOYD POUNDALL, Esq., L.D.S.

It is an exceptional matter for a case of the above character to come under the observation of a Dental practitioner in private practice. I therefore think it worthy of publication. Mark E—, a youth engaged in a merchant's office, nearly 16 years of age, after being under medical treatment for a fortnight without receiving any marked benefit, with the consent of his surgeon consulted me, his friends being most solicitous to know whether the wisdom teeth had anything to do with his attack of paralysis. On his first visit the centre of the mouth was considerably drawn to the left side, his articulation indistinct, and his appearance slightly anæmic. On examining the teeth I found the right lower first molar badly decayed and sensitive to the touch, and the body of the jaw corresponding with the tooth much thickened. I at once decided to extract this tooth, and commenced treatment to three others, which I hoped to save. Having occasion to pay me several visits, I had an opportunity of watching the case. In addition to the treatment adopted by his surgeon (namely, the internal administration of *Tr. Ferri Perchlorid. cum Glycerini*), I applied tincture of iodine to the enlargement of the jaw below the offending tooth. The

second lower bicuspid being too sensitive to bear excavating, I used one dressing of arsenious acid, mixed with carbolic acid, on cotton-wool. At his second visit, the day following the extraction, his articulation and general appearance had much improved, and a fortnight afterwards, which was his last visit to me, the thickening of the jaw was considerably reduced, his face had assumed its natural appearance, and he expressed himself as being very well, his only complaint being an inability to thoroughly close the right eye. His rapid improvement immediately after the extraction leads one to think that the irritation of the carious lower molar must have been the cause of the paralysis, and shows the necessity of a thorough examination of the teeth in all cases of loss of nerve power in the region of the head and face.

Brighton; February 8th, 1879.

Mechanical Dentistry.

CHAPTERS ON MECHANICAL WORK, ILLUSTRATED BY CASES IN PRACTICE.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

(Continued from p. 15.)

IN mounting flat teeth it is not proposed to use them for mastication, but for those cases where the great facilities which they offer us for adapting them on the plate in the mouth make them specially advantageous for front teeth. The great majority, therefore, will consist of the front six or eight teeth, and as we shall have to move them on the plate before finally fixing them there, it will be evident that we must not try to give them any strength by allowing them to rest on the plate. The whole of the resistance to the force of mastication must therefore be taken by the back, or if any falls on the tooth, by the hold which the tooth has on the back. The back should therefore be stout—No. 8 or No. 9 plate—unless the bite is very close. Gold has a tendency to bend or rivet under repeated blows, and thus accumulate the force of successive slight shocks. For this reason, if there is an edge-to-edge bite or the teeth are long, it is not well to bring the gold up to the edge of the tooth, as in the first place the edge is apt to get rivetted down by the force of mastication which makes a burr, and finally

forces off the tooth from its back, and in the second place the back gets slightly bent, equally ensuring the destruction of the depending tooth. On the other hand, the back must not be too short. The platina pins by which the tooth is attached to the back are readily bent, and act more like a ligature binding the tooth on to the back than like rigid bars. If the edge of the back, therefore, is close and parallel to the line of the two pins, above or below, a very small force applied to the other extremity of the tooth will cause the tooth to separate from the back there, turning over the end which was close to the pins as over a hinge, bending the platina pins and breaking the tooth. Leverage has a great deal to do with this manner of breakage. Considering the tooth as a lever, the pins as the weight to be moved, either end of the back will be the fulcrum, and the opposite extremity of the tooth the place where the power is applied. Then the further the fulcrum, that is, the end of the back, is from the pins the less power will there be at the other end of the tooth to lift the weight, that is, bend the pins.

For these reasons it is best to have a tolerably long back as well as a stout one, and yet not reaching up to the edge of the tooth; the edge of the back should be left stout, not bevelled down too finely, as although this gives a nice looking finish these thin edges are apt to get rivetted down.

Where teeth are set to the gum if space has to be economised in the back it is well to let the pins be nearer the upper than the lower edge of the tooth, as all the force which falls against the tooth is that of direct mastication, but if there is a stump beneath it is best to get the pins in the middle of the back and grind away the tooth above or below according to circumstances; as if you have a very short back in such a case, and the pins are close to the top or bottom of the back, a return of the piece shortly with a fractured tooth may be confidently expected.

To put up flat-backs.—Let the teeth down on the model to the bite without the plate. If there are any natural teeth take care that the artificial teeth stand rather higher than these to allow for the softness of the mucal base. Place the plate on the model and file it back so as to allow a little tongue of gold to stand under each tooth, not as a support to the tooth, but as a more comfortable saddle to the gum. Now back the teeth. To do this punch a couple of holes for the pins of the tooth in the most economical position of your piece of gold. Put the tooth on the plate, the pins being in the holes, mark round the tooth with a sharp point, remove the tooth and cut out your back. File up and sandpaper

the two sides and the cutting edge as you wish the back to be when finished. Try on the tooth and see that it fits closely, if not, remove any burr and bend it until it does fit. Place the back on the tooth for the last time and fix there by bending the pins over it, upwards if the pinholes stand low so as to be close to the plate, downwards if the reverse is the case. The pins should never be rivetted, as this prevents the solder running through, and if the head of the pin requires to be ground off for the bite, away goes the tooth. Bending the pins on the back allows the solder to flow well round them and strengthens the back at the same time. The ends of the pins should be full flush so that all is smooth to the tongue. The teeth being backed let them down over the plate to the model, again grinding away the back and under side of the tooth freely, but without touching the front again until it goes easily into its place without touching the plate.

Heat the plate and rub a little Ash's cement on it, do the same to the backs of the teeth. Put the teeth in place on the plate on the model and fix them by dropping a little of the cement behind each.

Now try in the mouth; if it is cold weather just dip in warm water for a moment before putting in the mouth. When they are adjusted remove from the mouth and drop a little more cement behind each, and when this is cold try them in again to make sure that they are all right.

The teeth must not be allowed to touch or rest against anything from this time until safely invested in a batter composed of two thirds plaster and one third sand, mixed with water. A heap of this batter should be poured on a piece of paper on the bench, and the piece placed on it and gradually settled into it. The investment should occupy all the under surface of the plate and teeth, and be brought over the faces of the teeth and a quarter of an inch above their cutting edges. When set it should be trimmed so as to be about a quarter to a third of an inch in thickness everywhere. Remove the cement with a stream of boiling water. If there are any gaps now visible between the backs of the teeth and the plate, drop small pieces of scrap plate or short bits of wire to fill these up, and cover all the pins and joints with a liberal supply of powdered borax and water.

To heat up before soldering place the piece in a wire cradle over the flame of a Bunsen's gas burner, as long as the heat only reaches the teeth through the plaster there is no fear of cracking these, as plaster is a very slow conductor of heat. Should there be a fire in the workroom the workman cannot do better than rake a place in the cinders free from flame

and smoke and place the piece at once on the red embers, taking care that the plaster is between the teeth and the greatest heat. When the heat has passed through the plaster and teeth and raised the borax there will not be much danger in proceeding to solder; but it is well to give a few minutes grace after this. Whilst the piece is heating get your soldering coke, corn tongs, blowpipe, solder, &c., ready, as no time should be lost when the piece comes out of the heat before commencing with the blowpipe flame. No. 3 solder should be used, and a generous supply of large pieces supplied, as the bases of the backs of the teeth require good support.

The use of the blowpipe has been often described, but as some pupils still find a difficulty in mastering it, a few words on the subject may not be amiss.

The first thing to be learnt is to keep up a steady blast instead of intermitting with the breath. To learn this, distend the cheeks, keeping the mouth shut and the tongue drawn back. If the pupil can now breathe regularly through his nose he should have no further difficulty; this is the first step. Whilst the cheeks are distended insert the blowpipe between the lips; the elasticity of the cheeks and the compression of the cheek muscles will now force the air out of the cavity of the mouth through the blowpipe without at all interfering with the regularity of the breathing, and when the cheeks are collapsed a further supply is obtained by protruding the tongue like a piston towards the blowpipe. Before this supply is exhausted the cheeks are distended with a fresh supply of air from the lungs, and the process is continuously repeated. Thus a constant stream of air can be kept through the blowpipe without distressing the lungs in the least, and the workman is only limited in time by the powers of endurance of the muscles of his lips to continue their grasp on the blowpipe.

In using heat by the blowpipe it is always easier to regulate the application with greater precision, as with other forces, when there is a large surplus of power at disposal, than when the workman is straining his endeavours.

Heat flows into and out of a gold plate almost like water through a sieve; if, therefore, the workman tries to solder any point by directing the flame first and only upon this the great loss of heat by the conduction and radiation of the rest of the plate will call for such a great supply of heat at the desired point that his powers will be heavily taxed, perhaps beyond his control, and he will melt or sweat some part to his mortification. To avoid this let the support of the plate be a non-conductor of heat so shaped as to shelter the plate as

much as convenient from the radiation which free exposure allows. A piece of close coke answers exceedingly well. Cut out a bay or dock in it large enough to hold conveniently a large plate, bind the part to be held in the hand round with iron wire, and coat it with plaster trimmed to a convenient shape in order to make it durable. The plate to be soldered is placed in the dock in the coke in such a position that the flame of the blowpipe can be played all around and under it. The whole of the plate is first heated to within a little of the melting point of the solder, say a dull red, by a large brush flame, and when it has arrived at this state a fine-pointed flame is suddenly directed upon the solder or upon the largest piece of the gold contiguous to it, the solder will immediately melt and flow in the direction of the greatest heat. It must be borne in mind that small bodies heat much more rapidly than large ones, so that if a pin, for instance, is being mounted much more heat must be given to the plate at the point of soldering than the pin, or the latter will melt before the plate is hot enough to allow the solder to run. As long as the two parts in juxtaposition are kept at the same heat, which can be judged by the colour, and that the greatest point of heat on the plate, there will be no fear of sweating or melting any part as long as the solder is unmelted. A large brush flame is made by holding the point of the blowpipe a short distance out of the flame, and this is altered to a fine-pointed flame by suddenly thrusting the point of the blowpipe into the flame.

Vulcanite teeth are attached to a gold plate by using vulcanite as a medium ; it supports the teeth by fitting them accurately, maintaining a hold of them by their pins, or by their shape being particularly constructed to give a hold to the rubber by allowing it to permeate cavities or surround dovetails in the substance of the tooth. Of these methods I must express a preference for the pin teeth. The vulcanite in its turn is attached to the plate by pins or scraps of plate soldered to the plate which the vulcanite envelopes. After trying various methods such as cups, scraps, &c., I find fine pins are the least inconvenient in working. Ten are a good number for a complete upper, one behind each central so as to stand just between the pins at the back, one on each side behind the division between lateral and canine, one between the bicuspid, and one opposite each molar. To put them up mount the teeth approximately on the plate in wax and mark the spots through the wax on the plate with a drill, punch holes and put up the pins as for tube teeth, letting the pins be an eighth of an inch in length, and sweat the top of each pin into a head with the blowpipe after soldering.

Remove the teeth and put up modelling wax in blocks on the plate for the molars, and bring a rim of wax round the front of the plate to carry the front teeth. Put up the two centrals and try in the mouth, get the right bite on the wax blocks first in the mouth, and then adjust the two centrals to their desired position, proceed to add the two laterals, and then the canines and bicuspidis if necessary. If either of the pins prevents a tooth being moved in the wax cut the pin off, as it will give you less trouble to do so than to try and bend or file it in the wax.

If you are making an entire set it is best to get the upper teeth arranged first to your liking, because the position of these is of more importance in the expression than the lowers are, and will give you more guidance by their appearance. Make a lower trial piece of modelling wax and make a bite; as this is only to be used temporarily it will not be necessary to make it in plaster, Godiva or Stent's modelling composition will do it much quicker and is cleaner. With this bite arrange the lower teeth on the trial piece to suit the upper, and try in the mouth again for correction. Having made the final adjustments fasten the upper and lower pieces together in the mouth by thrusting a hot spatula between the wax of the upper and lower blocks on their line of meeting so as to melt them together, directing the patient at the same time not to open his mouth for a minute or two until the wax is cold. Remove the whole set in one piece and make a fresh bite in plaster of paris.

The rest of the teeth are now to be put up in the ordinary way with modelling wax. When finished with wax remove the plate from the upper model, fill the under surface with plaster and set in the lower part of a flask; when hard rub a parting over the exposed surface of the plaster, put on the upper part of the flask, fill up with plaster, and when set separate. Remove the gold plate and stream out the wax with boiling water. If you have cut away any of the pins in putting up the teeth now is the time to replace them, put a little column of wax on the plate where you judge the pin should stand, and drop the plate into its place in the flask again; this will receive marks from the adjacent pins of the teeth, &c., and serve as a guide for the putting up the pins on the plate again. When these are soldered up see that the plate drops quite down into its place as if these fresh pins bear upon the teeth they will probably break them in screwing up. Proceed to pack the piece in the ordinary manner, but do not put the gold plate on the lower part of the flask until the piece has been perfectly packed and pressed, after being boiled, until the two halves of the flask come

quite close; now with a hot instrument remove all the overflow of rubber, and a little more than this all round the margin to allow for the space occupied by the plate, put this on its place in the lower part of the flask and close, boil and press for the last time, when the flask is ready for vulcanising.

When vulcanised finish in the ordinary manner. As the ridge of vulcanite which supports the teeth on a complete upper denture made in this manner considerably stiffens and strengthens the piece, it is not necessary to use such thick gold as for tube teeth; instead of using plates of No. 8 or No. 9 gauge thickness, No. 7 or 8 will be sufficient.

(To be continued.)

ROTATING SWIVELS FOR SPRINGS.

By HENRY ROGERS, Esq., M.R.C.S.

At the meeting of the Odontological Society on January 13th, casual reference was made by name to a form of swivel used for many years by me when in practice at 16, Hanover Square. I was not present to explain its construction; but if you think that a description would interest any of your readers, the following is at your service.

In all cases, where possible, the attachment to the artificial denture was by a flat-headed screw, with a shallow shoulder around which the eye worked. The eye-ring, where it surrounded this shoulder, differed from the ordinary in being broadest where friction is greatest, namely, on the side towards the closed bite. The shank, upon which the spring is forced, instead of being made as usually of solid wire, consisted of a thin tube, split longitudinally, and rotating on a slender axis. One end of this axis was soldered into an aperture in the bent-up portion of the eye, and to the other end there was soldered a small button to prevent the escape of the tube. Thus constructed the shank could accommodate itself, by rotation, to such relative variation in the planes of the screws and eyes as might arise during the spring's action, thus diminishing strain on the spring, and also any consequent tendency to displace the dentures on the gums. Another advantage was, that patients could themselves easily replace a broken spring by a new one, since much less than the usual force was required to attach and detach the spring, whilst the rotating tubes ensured coincidence in the planes of its two ends, without any care on the patient's part. Of course every shank and every spring-end was arranged accurately to

the same gauge. The shank was shorter than in the ordinary swivel, which I considered an advantage. As to duration, even in cases where the wearing away of the eye-ring was considerable, that of the tube and axis was scarcely appreciable. The various parts were machine-made, and the time and cost of production were about the same as of ordinary eyes. I may add that, after experience of their advantages, I used no other swivels.

16, Dorset Square; January, 1879.

Chemical Department.

WHITE FILLINGS.

THESE have seemed lately to "flow" on us in a stream. Until recently the only materials in use were gutta percha and oxychloride of zinc, and the first departure from the old routine was made by Poulson, of Hamburg, who utilised a powder, the process of making which was given by Mr. Fletcher at a meeting of the Odontological Society about ten years ago, *i. e.* a dense oxide of zinc made by heating the nitrate of zinc to redness.

Mr. Fletcher failed to utilise this oxide satisfactorily for oxychlorides, and eventually abandoned any attempts in this direction, as, owing to its intense hardness and insolubility, it refused to combine with the chloride solution in a reasonable time, although when it did combine, which required about forty-eight hours, the resulting mass was nearly as hard as flint.

To get this oxide to set more rapidly Mr. Fletcher ground it up under water in a mill of Wedgwood ware, but the results were very irregular and unreliable, and it was never utilized. It would seem, so far as it is possible to judge by appearances, that this process was afterwards adopted for Rowney's white filling. Still, this oxide although apparently a valuable idea, remained practically useless until Poulson, discarding chlorides, used with this powder a concentrated solution of pyro-phosphate of zinc, making the material now so well known.

The objection raised to the tendency of the pyro-phosphate of zinc to crystallise was overcome by Mr. Fletcher, who first used a solution made by long digestion of Berlin porcelain,

in an impalpable powder, in phosphoric acid. This solution, owing to the great difficulty of making it in any except very small quantities, was replaced by a solution of alumina in phosphoric acid. The alumina or porcelain both give a distinct additional value to the material, owing to their resistance to solvents, and their use forms the basis of Mr. Fletcher's patent.

It would almost appear that these two materials, Fletcher's and Poulson's, are pitted against each other, to the practical exclusion of the older materials, the test of time being yet wanting in both. It is very certain, however, that neither of these are absolutely reliable in all cases, as a few failures of both have already come under our notice, although the average results appear to be an advance on any material previously in use. So far as appearance is concerned, in the front of the mouth we cannot say very much in favour of any, as they are, one and all, opaque, dead, and disagreeable in appearance.

We are now at last promised by Mr. Fletcher "the beginning of the end," to use his own words, a translucent filling which is so close a copy of the living tooth that fillings are nearly or quite invisible. When freshly extracted teeth are filled with this and dropped into acids or caustic alkalies, the filling is not cleared out in an hour or two, as is the case with all the older materials, but the resistance to all solvents, so far as we have tested, is a very close approximation to the teeth. We have desired Mr. Fletcher to give us some information respecting this material and give the result of our inquiries.

Ordinary Portland cement is composed of a silicate of alumina and lime loosely combined and containing a very large excess of lime, which is practically not a combination at all, as can be easily proved by the rapid disintegration of the hardest blocks of Portland cement, by weak acids. This excess of lime is necessary so long as the mixture is simply heated to whiteness in its manufacture, but if the lime is reduced greatly in quantity and the mixture heated in an oxyhydrogen jet or voltaic arc, we get a clear glassy bead of intense hardness. When this is ground to powder the compound has entirely changed its nature; it is practically insoluble, and combines again with great difficulty. This material has been known to Mr. Fletcher for some time, but until recently he has failed to discover any method of causing combination within the space of time necessary to make it practically available. This difficulty has at last been overcome with the assistance of a chemist from the Freiberg School of Mines, and a well-known German chemist who

has been associated with Mr. Fletcher for some years in experimental work. Both are known to us by name, but at their own desire we are requested not to publish their names, as the whole of the actual work has been done by Mr. Fletcher in his own laboratories, working out and experimenting with all suggestions.

This filling is, of course, young, in fact, we may say it is not born yet as none has been sent out, and we have yet to prove whether the hopes of the "beginning of the end" will be realised. Let us hope, for the sake of the operators over the whole world, that they will.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM DECEMBER 1ST TO DECEMBER 31ST, 1878.

Extractions	{ Children under 14	300
	{ Adults	535
Under Nitrous Oxide		223
Gold Stoppings		65
White Foil ditto		35
Plastic ditto		329
Irregularities of the Teeth treated mechanically		40
Miscellaneous Cases		294
Advice Cases		86

Total..... 1907

LAWRENCE READ,
Dental House-Surgeon.

NATIONAL DENTAL HOSPITAL.

THE annual general meeting of the subscribers to this institution was held at the hospital on the 24th ultimo, the Right Hon. Lord Viscount Enfield, President, in the chair.

The Seventeenth Annual Report of the Committee of Management showed that, notwithstanding the great depression of trade and heavy calls upon the charitable, the receipts of the past year exceeded those of any preceding year since the foundation of the hospital; and compared with the year 1877, there was an increase of £30 5s. in donations, of £35 in annual subscriptions, and of £11 8s. 6d. in the donations received from the patients. The Baroness Burdett Coutts had also given a donation of £50.

The total receipts for the past year amounted to £527 12s. 9d., and the expenditure was £512 15s. 5d.

The Medical Report showed a continual increase in the

number of patients attending during the year 1878. The number of patients attending was 10,914, and the number of operations performed was 13,069, the increase for the year being 1027 patients and 1717 operations.

In consequence of the increasing work of the hospital, and also the increasing number of students attending the hospital practice, the Medical Committee recommended the appointment of a house surgeon. That recommendation was accepted, and an advertisement for that officer will be found in our advertising columns.

Lord Enfield expressed his pleasure in again presiding over the annual meeting, and was pleased to learn of the continued success and of the improved financial position of the institution.

NATIONAL DENTAL HOSPITAL.

QUARTERLY STATEMENT OF OPERATIONS PERFORMED FROM OCTOBER 1ST TO DECEMBER 31ST, 1878.

Number of Patients attended	2699
Extractions { Under 14	686
Adults	982
Under Nitrous Oxide	51
Gold Stoppings	34
Other Stoppings	783
Advice and Scaling	233
Irregularities of Teeth	83
Miscellaneous	79
Total operations	2931

[In answer to some remarks that have been made to us on the subject, we beg to draw our readers' attention to the fact that the Reports of the Dental Hospital of London are MONTHLY, whilst those of the National Dental Hospital are QUARTERLY, hence the higher numbers of the latter.]

British Journal of Dental Science.

LONDON, FEBRUARY, 1879.

OUR readers will have learned from our issue for December last, and again from our January number, that, by a new regulation of the Royal College of Surgeons of England, Dentists who were in practice or had commenced the study of Dentistry before September 8th, 1859, and who have not

advertised since July 22nd, 1876, will be admitted for examination without curriculum. Glad as we are for any concession that can be made for the elder practitioners, we should have been better pleased had this concession been differently expressed. We know of more than one very good provincial practitioner who, though he has long since forsaken the ranks of regular puffing newspaper advertisers, has still had recourse to a system of what *he* considers private cards and circulars, thus laying himself open to the accusations of enemies, who by their information might prevent him from receiving permission from the Royal College of Surgeons to present himself for the Dental examination. We cannot but think, therefore, that the new regulation should run thus :

“That all Candidates for the Diploma in Dental Surgery, who either were in practice as Dentists or had commenced the study of Dentistry before the 8th September, 1859, be, if approved by the Board, admissible to examination, provided that they can show *that for two years prior to their application* they have not made use of advertisements or public notices in a manner which, in the opinion of the Board, is objectionable.”

The period named might be two, three, four, or five years, provided it is dated *back from the time of application*, and thus all might have a chance of reformation and redemption from the ranks of the unqualified.

We would, moreover, most earnestly urge upon the examiners the justice and propriety of showing some degree of consideration to the old practitioners in judging the value of their replies to anatomical and histological questions, especially those which are based upon the investigations of the last few years. If some amount of consideration were shown upon these points, we would venture to say that few candidates would present themselves now who could not pass a very creditable examination upon almost every other branch of Dental knowledge. We would further suggest that, *now* that the Dental Reform Committee has accomplished the task for which it was called into existence, it, or any body that succeeds it, might very reasonably take action in this matter and bring its influence to bear on the Royal College

of Surgeons. Should it not do so, then we would urge all who desire to obtain the diploma of the Royal College of Surgeons (that is, those who were in practice or had commenced their Dental education prior to September, 1859) to combine together and petition the College *en masse*. If required we are ready to help, but prefer that others should take the initiative. Meanwhile, as one step towards the accomplishment of the object in view, we would ask all those who are personally interested in the matter to send us their name and address, for our private use only, so that we may form some idea of the extent to which such a movement is needed or desired.

Literary Notices and Selections.

Sore Throat, its Nature, Varieties, and Treatment, including the Connection between Affections of the Throat and other Diseases. By PROSSER JAMES, M.D., M.R.C.P. Third edition.

THE author has made considerable additions to this edition, which, in the present state of our knowledge were called for, and he has wisely included all the newest inventions and latest treatment. Also he has given some excellent and valuable coloured lithographic plates illustrating twelve examples of laryngeal disease. The type is good and not fatiguing to the eyes. The diction is clear and concise, the subject matter being well explained and easily understandable by those not in the profession. It would be instructive to some who take an interest in diseases connected with the mouth, to read a chapter or two when at leisure, as there are affections of the throat which, in a measure, have a connection with those of the mouth. We believe this to be the best treatise extant on the subject.

THE NEW DEPARTURE.

By THOS. FLETCHER, F.C.S.

(From the 'Dental Advertiser,' January, 1879.)

A FEW years ago I advocated the more extended use of plastic fillings, urging the result of years of experimental work in comparative testing and processes of manufacture so as to ensure good results, and at the same time published modes of testing different compounds. I was met on all sides with the furious denunciations of the American Dental

world. Not the most silent of the whole was Dr. Chase, who in unmeasured terms denounced me because he did not know me or my work, and denounced amalgams, as he most coolly said, *because he never used them*. He has since actually become, like myself, a maker and a vendor of amalgam. Unfortunately in reversing his doctrine he has like many others overstepped the mark, and lost sight of one of the most important services amalgam can and does render when properly made or rightly used, *i. e.* the permanent preservation of soft fragile teeth in mouths where the process of excluding moisture would entail totally unnecessary pain and annoyance to a patient. This is and has been my strongest point in favour of amalgams, *properly made*, over any and every other filling material known. Few amalgams have this property, and without it they lose their greatest value. An amalgam which will not work under water is not always reliable even in a dry cavity, although generally supposed to be so. If this were not the case amalgams which fail when worked in wet cavities would not be offered for sale as they are by those who ought to know better.

If the New Departure had any origin that origin certainly was from me and me only, as the whole groundwork of the testing and comparative examinations of fillings was originated by myself, and included the experiments with cohesive gold, the results of which were so freely abused by those who did not know what the experiments were before condemning them. The New Departure appears to me to be a wild overstepping of a safe middle course, and those who sound the war-cry loudest by advertising "no gold used" will before long erase it from their cards, even at the expense of engraving a new plate for this purpose.

It is very certain that many, if not most, of the New Departure men have never studied properly the properties and peculiar ways of that most curious compound an amalgam, and it is a pity that so many, knowing so little about it, have rushed in as makers before they understood what is required.

The reaction will come, and it is to be hoped, for the sake of a valuable friend, that operators will learn to test and judge for themselves the properties of any material before they use it. If this were the case at present the makers of amalgams would be few and far between, and those who now make by the cartload would learn to their cost that a reputation is easier lost than gained when operators are capable of judging, which is unfortunately not the case at present.

An amalgam to be reliable must make, in the hands of the

operator who uses it, a water-tight plug of the largest diameter ever required in the mouth, and one which will remain water-tight to the extreme margin under temperatures varying 30° or 40° Fahrenheit. It must do this in theoretical testing when the amalgam is placed in the cavity and mixed up with an equal bulk of water, the water standing over the plug the whole time it is packed; and the plug must show no visible change under a magnifying glass for at least six months.

Amalgams can be and are made to stand this test perfectly; if they will not the less they are used the better for all parties except the maker, who in this case needs no consideration.

The manner of working is an all-important element, and may cause success or failure with the same sample. Failure with a good sample means either the greatest carelessness or an excess of mercury, which in an amalgam requires to be used as sparingly as solder on a gold plate, and for much the same reason. It is not the all-important part, but simply a means of welding up the grains of the alloy. There would be as much reason in swamping an alloy with mercury as in dipping a gold plate in a pot of melted solder to make the joints—after this neither the plate nor the amalgam plug would be of much use. Many of the plugs I see can never have been anything but a weak solution of filings in mercury, and do not deserve to be graced with the name even of that much abused compound, an amalgam. So long as operators base their opinions on such plugs as these the opinions will be like the plugs, of little value. A large proportion of gold plugs fail for want of skill on the part of the operator, *i. e.* manipulative skill, which few can hope to obtain after years of hard work. A large proportion of amalgam plugs fail also, not for want of manipulative skill, which is in this case within easy reach of all, but for want of necessary and simple knowledge of testing, so as to learn the exact way in which a certain compound must of necessity be used to obtain good results. The manipulation of every different alloy must be learnt by practice, and the maker's most precise instructions should be given in all cases; these should be verified by the operator experimentally before he attempts to use it in the mouth. After this all should be plain sailing. An operator who changes about from one alloy to another, without a clear and specific reason, simply loses all his experience, and has to begin *de novo*; his previous knowledge goes for less than nothing, as it only misleads and deceives in many cases.

Museum Street, Warrington, Eng.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

ANNUAL GENERAL MEETING, MONDAY, JANUARY 13TH, 1879.

ALFRED COLEMAN, Esq., President, in the Chair.

MR. HENRY exhibited models from the mouth of a young gentleman, seventeen years of age. In the lower jaw all the primary teeth were present; the crowns of the incisors were worn down almost level with the gums, but the teeth were still firm, and there were no signs whatever of any of the permanent set. In the upper jaw, the only permanent teeth which had appeared were the central incisors and the bicuspid. As there had been an ugly gap on each side between the primary canines and the first bicuspid, Mr. Henry had replaced the former by artificial ones.

Dr. FIELD showed an improved Morison's engine which he had just received from the United States. Its advantage over other machines consisted in the short and very flexible arm which could be made to work at angles, which could not be managed by any other machine; the arm being balanced by a spring there was no weight on the hand of the operator, and the coned bearings were so well adjusted that the machine was by far the lightest and easiest to work, of any which Dr. Field had yet tried.

The PRESIDENT said he should like to see White's machine simplified by doing away with the outside sheath of the arm so as to leave only the rotating wire cord; the machine could then be worked at any angle, which certainly could not be done with the present arrangement of its parts.

Mr. JAMES PARKINSON showed a curious and complicated extracting instrument which his brother, Mr. George Parkinson of Bath, had found among the effects of a deceased surgeon, and which he had sent up for presentation to the museum.

Mr. OAKLEY COLES exhibited, by request of the inventor, Mr. Hemple, a new form of spring and swivel for vulcanite plates. A drawing and full description of this invention appeared in the 'British Journal of Dental Science' for December last.

The PRESIDENT thought the invention would prove a valuable contribution to mechanical Dentistry. Some patients gave a great deal of trouble by constantly breaking or bend-

ing their springs. He believed that Mr. Rogers had used a somewhat similar mode of attachment some years ago, but he had not had an opportunity of examining one of them recently, and could not call to mind the details of the arrangement. Perhaps Mr. Rogers would explain the difference between the two inventions.

Mr. A. ROGERS said the detachable springs referred to by the President were the invention of his brother, Mr. Henry Rogers, and he did not feel able to give a sufficiently clear description of them at the moment. He would write to his brother on the subject and ask him to send a description and specimen before the next meeting of the Society.

Mr. OAKLEY COLES said Mr. Rogers's swivel had a loose collar round the shank of the swivel, revolving with the spring.

Mr. HUTCHINSON said that he could bear witness to the utility of Mr. Rogers's invention. A patient applied to him recently wearing a very thin and light pair of springs, which she assured him had not been changed for thirteen years; on examining them he found they were fitted according to Mr. Rogers's plan.

Mr. MACLEOD showed a mouth piece, the invention of Dr. Allfoot of Edinburgh, which could be fitted to any of the saliva ejectors now in use. It consisted of two parts which, after being separately adjusted, were secured together in position by means of a small moveable clamp. The first part was designed to remove the sublingual secretion; it consisted of a German silver tube, bent into an ogee form; to the upper end a polished metal disc could be attached, one side of this served as a tongue guard, the other as a reflector. To the lower end of the silver tube was attached another, made of block tin which could be readily bent in any direction, without fear of breaking, and to this the saliva pump was attached. The second part of the apparatus was intended to remove the parotid secretion, and consisted of a perforated india-rubber tube which was tucked up under the upper lip and into each cheek, the free end of the tube being placed on the side to be operated on, whilst a tin tube communicating with the saliva pumps was attached to the other end.

Dr. FIELD said that, after making a personal trial of the apparatus, he could state that he considered the sublingual mouth-piece the best he had yet met with, but he did not think that the parotid tube would be of much practical use. A pad of blotting paper placed over the orifice of the duct answered the purpose just as well, and was certainly less irksome to the patient.

Mr. HUTCHINSON also expressed his approval of Dr. Allfoot's invention, but suggested certain slight modifications. He had found the soldering at the junction of the silver and tin tubes faulty in one instance, and this was an important point, since a small orifice in that situation would render the whole apparatus useless. He thought the parotid tube quite useless. He always used a pad of amadon, and he found that this would arrest the secretion from Steno's duct for an hour and a half or two hours.

Mr. MAY showed a model of the upper jaw of a patient, one of whose central incisors had been driven up into the inferior nasal meatus by a fall.

The PRESIDENT read a communication from Mr. Fletcher, of Warrington respecting a new filling with which he had been lately experimenting. It was composed of silicate of lime and alumina, was easy to work and when set formed a hard, slightly translucent stopping, quite different from the opaque dead white appearance of other white fillings. With a view of showing the durable nature of the composition, Mr. Fletcher had filled four teeth with it and had, within five minutes afterwards, suspended one of them in each of the following solutions: strong hydrochloric acid, strong liquor ammoniæ, strong vinegar, and a nearly saturated solution of citric acid. Of these only the first had any rapid action on the filling; the other teeth, after remaining in the solution for from fourteen to twenty-four hours showed only slight disintegration of the surface of the stopping to about the same depth as the enamel itself had been affected. The composition had only been pushed into the cavities with the finger, and smoothed off with a pen-knife, and the surface had not been burnished or otherwise condensed. Mr. Fletcher claimed that no other white filling would stand tests approaching these in severity; liquor ammoniæ especially was destructive to all of them. He had sent up the four teeth above referred to for the inspection of members.

The PRESIDENT then called upon the Librarian for his report.

Mr. ROGERS said he could state that the books under his care were steadily increasing in numbers, and were in a good state of preservation. So far his report was satisfactory, but he had also to state that the number of volumes taken out during the year had been only fifty out of 850. This great falling off had been chiefly due to the fact that partly from the pressure of other work, and partly from ill-health, he had not been able to attend to his duties as Librarian as regularly as he ought to have done. The bad effects of his neglect being so evident, he had felt bound to send in his

resignation, and had urged the Council to accept it. He felt sure that his successor, Mr. Weiss, would do all he could to restore the library to a state of usefulness, but in order to make the library and museum fully available for study and reference, it would be absolutely necessary to appoint a paid official who should combine the duties of sub-librarian and sub-curator. The facilities which such a post would afford for the prosecution of original investigations would, he felt sure, make it acceptable to good men even at a very moderate stipend. If the funds of the Society were not yet in a state to justify such an outlay he hoped that members might be induced to aid him in starting a Library Endowment Fund, with a view to the establishment at as early a date as possible, of the officer he had mentioned.

The PRESIDENT stated that Mr. Chas. Tomes had no special report to make respecting the museum, all new specimens having been exhibited and commented on from time to time, as they were received. He then called upon the Treasurer to read his report.

Mr. PARKINSON said he was pleased to be again able to give a very satisfactory account of the financial position of the Society. The total receipts during the year had been £509 11s., and the expenditure £372 16s., leaving a balance in hand of £136 14s. This balance of course varied greatly from year to year; for the last seven years, the average surplus of receipts over expenditure, had been about £63 per annum. They had in the Funds a sum of £1134, and the cash in hand and on deposit amounted to £542. The Society now included 304 members; twenty-one of whom had been elected during the year. There had been no deaths, and five withdrawals. There were, in addition to the above, fifty-two honorary and corresponding members.

The PRESIDENT then proceeded to deliver his Valedictory Address.

He commenced by congratulating the members on the progress which the Society had made during the past year; it had grown both in numbers and in wealth, indeed the finances were in a condition truly enviable in such times as the present; the monthly meetings also had been well attended, and the discussions had quite equalled in interest those of former years.

He then gave a brief retrospect of the work of the Society during the past year. The most noticeable feature was that on several occasions a discussion on some practical and interesting subjects, had been opened by a brief introductory statement, instead of by a lengthy and elaborate paper. Thus in April the question debated was "*Extraction versus*

Expansion of the Dental Arch," in June it was "the Nature and Treatment of the so-called Riggs Disease" and in November "Is the use of Chloroform for Dental Purposes justifiable?" The experiment had certainly been successful; the discussions had been, on each occasion, interesting and instructive. That on Riggs's disease had been perhaps the least satisfactory; the subject was not at present very clearly defined; more than one disease had been referred to at the meeting, and a wish had been generally expressed that it might be again brought forward at some future time. The chloroform question was fairly and deliberately discussed, and although it was considered inadvisable to lay down a hard and fast rule, the general opinion was to the effect that whilst chloroform should only be employed in very exceptional cases in Dental surgery, there were a few such for which it was the most suitable anæsthetic. The authoritative character of the meeting, which was attended by some of the most eminent anæsthetists in this city, rendered its conclusions most important. So long as the statements made in the 'British Medical Journal' remained unchallenged, the position of anyone who recommended chloroform for a Dental operation, was far from satisfactory, whilst now he would feel that, under peculiar conditions, he may be justified in so doing.

Mr. C. S. Tomes had contributed two papers during the session, one of them having been supplied at very short notice, to fill up an unexpected hiatus. All would admit that the Society was deeply indebted to this gentleman, and that he should, this year, have received the highest scientific distinction our country can afford, must have been a source of gratification to every member.

The communication received that evening from that most industrious experimenter, Mr. Fletcher, held out great hopes that, before long, we might possess the great desideratum of our day, viz., a stopping as superior to gold, as that had formerly been regarded as superior to all others. It was true the profession had been disappointed with the results of former announcements to this effect, but he believed, from private communications which he had received from Mr. Fletcher, that he was now working it the right direction.

At the April meeting, he had the pleasure of announcing that a committee had been appointed to analyse and carry out experiments, with new materials, for filling teeth. The Committee had as yet only made a short report on the composition of Slayden's amalgam, but it had been actively at work, and would soon be able to present an account of its experiments with a variety of compounds. He trusted that

the Committee would be able to continue its work, although it was one which must trespass, in no small degree, on the time of its members, and he felt sure that the Society would grudge no reasonable sum of money in order to enable them to prosecute their labours. Members of the profession had at present to rely wholly on the assertions of the vendors of these materials, if they desired to employ them early; whilst on the other hand, a refusal to use them till their value had been established by years of trial might sometimes prove a misfortune to the cautious man and to his patients.

He thought that this summary of the work of the Society during the past year, would compare favorably with most of its predecessors; there had been no great event to chronicle, and happily no great calamity to deplore. That the hand of death had spared their ranks was a cause for thankfulness. Without the Society one had been called away, who, at one time, occupied no unimportant position in the profession, his practice was large, and his work of undoubted excellence; he referred to the late Mr. Lintott.

The great event of the year had also occurred, without the Society. In his address in February last, he had remarked "I can hardly venture to believe that so important a measure as that now before Parliament will, ere a year passes, become the law of the land" yet this had come to pass, and they could at last congratulate themselves on being members of a legally recognised profession. He believed that such an event was unprecedented in the annals of parliamentary history, and it said much for the indefatigable labour of the two individuals who achieved it. Members might think that nothing had been gained by this measure except an exemption from serving on juries, which was itself no slight relief, and some might even feel a little discouraged at the thought of the registered associates who had been forced upon them; but in all such measures existing rights, even though they were little else than actual wrongs, must be respected. Let them not forget that progress of any kind, whether of the individual, of the nation, or even of the species, could not be made without self-sacrifice; they should content themselves by reflecting that they had joined in a work for which they would deserve the gratitude of future generations.

Mr. Coleman concluded by expressing the obligation he was under to the secretaries, and other officers of the Society, and offering them his thanks for the services they had rendered to him during his year of office.

At the conclusion of the Address, the Scrutators, Messrs. Stocken and R. Woodhouse, reported that the following list

of officers, proposed by the Council, for the coming year had been unanimously elected :—

President.—Edwin Saunders, Esq.

Vice-Presidents.

(RESIDENT.)
Henry John Barrett, Esq.
Charles James Fox, Esq.
T. A. Rogers, Esq.

(NON-RESIDENT.)
H. Campion, Esq. (Manchester).
David Hepburn, Esq. (Edin.)
Alfred Meara, Esq. (India).

Treasurer.—James Parkinson, Esq.

Curator.—C. S. Tomes, Esq.

Librarian.—Felix Weiss, Esq.

Honorary Secretaries.

Ashley Barrett, Esq. | S. J. Hutchinson, Esq.
W. G. Ranger, Esq. (for Foreign correspondence).

Councillors.

(RESIDENT.)
H. B. Longhurst, Esq.
H. Sewill, Esq.
A. P. Reboul, Esq.
E. B. West, Esq.
J. S. Turner, Esq.
T. Underwood, Esq.
Oakley Coles, Esq.
J. Walker, Esq.
W. H. Woodhouse, Esq.

(NON-RESIDENT.)
W. Margetson, Esq. (Dewsbury).
W. Campbell, Esq. (Dundee).
J. Doherty, Esq. (Dublin).
W. R. Wood, Esq. (Brighton).
W. Hunt, Esq. (Yeovil).
T. W. G. Palmer, Esq. (Cheltenham).

Mr. WOODHOUSE proposed, and Mr. WALKER seconded a vote of thanks to Mr. Coleman for the very satisfactory and efficient manner in which he had performed the President's duties.

Mr. COLEMAN in reply, said he had received more from the Society than he had been able to repay, he had been the first member formally admitted by the President after the first establishment of the Society and from that time until his health began to fail he had never missed a single meeting. This Society was his school in those days, and a very good school he found it.

Mr. VASEY proposed, and Mr. COLEMAN seconded a vote of thanks to the Secretaries, Treasurer, and other officers of the Society, for their services during the past year.

This having been carried unanimously, Mr. OAKLEY COLES briefly returned thanks, and the meeting terminated.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF
LONDON, 40, LEICESTER SQUARE.

ORDINARY MEETING, NOVEMBER 11TH, 1878.

LAWRENCE READ, Esq., L.D.S., Vice-President, in the Chair.

THE minutes of the previous meeting having been read and confirmed, the following gentlemen were ballotted for, and duly elected members of the Society :—Messrs. Bernard, Curle, Dagnall, C. D. Davies, Hindley, Kurnock, Rees Price, H. Read, and Robbins.

Mr. Stuck was proposed for election.

Mr. MAGGS exhibited two very abnormally developed canine teeth ; also a central incisor, the enamel of which extended nearly to the apex of the fang.

The Chairman then called on Mr. DEWES for his paper on "The Extraction of Teeth."

After remarking that his hearers must not expect any fresh information from him, but that his paper was rather addressed to first year's men and beginners, he said :—The one great fault made by beginners when commencing extracting is, that they are always in too great a hurry. Instead of going methodically to work, and feeling their ground, as it were, they seize hold of the tooth, make the movements as rapidly as possible, utterly regardless of consequences as long as the tooth comes away. As a matter of course many accidents are liable to follow this hurried mode of operation, not to mention the unnecessary pain given to the patient ; and I would here remark that, perhaps in no other profession are the persuasive powers of man, and his kindly feeling for fellow-sufferers, more requisite and necessary than in ours ; and to give our patients as little pain as possible is one of the things we should all aim at, for you must remember that a great deal in this respect depends upon the operator. Many a man has earned a high reputation chiefly on the score of gentleness. Other men may be equally skilful, but do not meet with half the success simply because they make the mere removal of the tooth their sole consideration, having no regard for collateral contingencies.

The operation of extraction is one which I am afraid we all look upon as quite a secondary and almost unimportant branch of our profession. I maintain, however, that there is as much skill and manipulation required to extract a tooth properly as is necessary to be able to put in a gold filling, and that the proficiency requisite is only to be acquired by long and continued practice.

It is very difficult, nay almost impossible, to set down hard-and-fast rules for the mode of procedure in a straightforward case of extraction, but in cases where a number of teeth are to be removed you should commence with those most posteriorly situated and work towards the centre; and where teeth are to be removed in both jaws to commence with the lower one first, the reasons for doing which are obvious, namely, the blood from the position of the head runs towards the posterior part of the mouth, and so does not hinder you from seeing where you are and what you are doing; and similarly, by beginning with the lower jaw the blood remains there, and so is not in your way when you begin on the upper. In operating under gas of course you want to be a little quicker than with ordinary extractions, on account of the shortness of the period of insensibility; but still, if you have any difficulty do not hurry, and if you experience more difficulty with one tooth than another leave it and go on to the next. Always have the instruments you think you will require handy, so that if you want to change your forceps you will not have to leave off operating to go and look for them, but place them somewhere where you will be able to lay your hand on the one you want. Be as quick as you can in carrying the instrument to the mouth, but be perfectly certain that you have got a good firm hold on the tooth before you begin to dislodge. A great deal of time is saved by doing this, instead of clapping the instrument on and beginning to extract before you know whether you have got hold of the tooth or not, and consequently in nine cases out of ten the instrument slips, and you have to begin all over again, whilst meantime very probably your patient has come round.

Although I have supposed that you all know the rules for the extraction of the different teeth, perhaps it would be as well to run over them once more. We will begin with the superior incisors. The movement necessary for the extraction of these is rotation. There are occasional circumstances, however, that render this somewhat difficult; the root may be considerably curved, or the attachment to the outer plate of the alveolus is so firm that it cannot be broken up by simply rotating the tooth. This difficulty is more frequently associated with the central than with the lateral incisors, and when this is met with the attachment must be broken up by an inward and outward movement, which must be done very carefully, as the pressure necessarily made on the parts is attended with much more pain and far greater danger to the contiguous parts than the loosening by rotary motion. The roots of the incisors are

not difficult to remove unless, being very much decayed, they will not stand the embrace of the forceps below the border of the alveolus. When such is the case one of the following methods may be adopted: the gum may be dissected on the alveolus, and the latter cut away so as to expose the root sufficiently for extraction with the root forceps, or the elevator may be introduced, and the root thus dislodged.

I remember once having a central stump to take out. It was broken off beneath the level of the gum, and what remained was a mere shell, thin almost as paper. To attempt to extract it would have been useless, for it would have collapsed with the slightest pressure, so I cleaned it out as well as I could, then heated some waste amalgam and plugged it up, and told the patient to come the next morning, which she did, and I was able to remove the tooth entire, whereas before I think you could have crushed it with your fingers.

Other complications of a more or less serious character may arise; the fracture may extend so far within the alveolus that only just the extreme apices of the fangs remain, in which case I think that to attempt to extract them will only prove fruitless, besides torturing the patient and sorely trying the operator's temper.

In such mishaps I always tell the patient the facts of the case; and I may here mention that to attempt to deceive a patient is one of the greatest mistakes that can be made; it not only brings discredit on the operator, if any unpleasant results should arise, but also endangers the reputation of our hospital. I also direct them, should there be any pain, to return at once. Where the fracture is high up you should be very careful in going for the root, and especially in the case of upper molars, as there is the danger of driving the roots into the cavity of the antrum. I shall not enter into a description of the course to be adopted in such cases; the subject was most ably treated at the last meeting by Mr. Magor.

Before I go further I will here enforce upon you what I should have done before, and that is the great necessity of looking well at your case before operating; examine your case well, for there are instances in which a mere cursory glance will not suffice, such as cases of gemination of teeth.

Gemination, as its name implies, means the union of two or more teeth, and is of two kinds—congenital and secondary. In the first class the whole of the tissues of the two teeth are united; and, in the second, the roots only are joined by an outgrowth of cementum.

In most instances of congenital gemination you will have no difficulty in observing the deformity.

In cases of secondary gemination the union is necessarily beneath the gum, and you will probably have no means of discovering the state of affairs until, having extracted the offending member, you find, to your horror, that you have brought away its neighbour with it.

I had only seen one case of the kind until last Wednesday, when Mr. Hepburn, our surgeon, had a case in which several pairs of teeth were united by secondary gemination. In such cases there is no remedy, but I would caution you that the mishap is almost always followed by profuse hæmorrhage.

I shall not be able to enter fully into all the dangers and mishaps that we are liable to in the extraction of teeth. To many it appears a simple operation, apparently requiring only a rudimentary knowledge, and that, with the necessary implements and a goodly amount of brute force, they vainly imagine that any tooth is easily got rid of. This is, of course, altogether a mistake and a fallacy, and though it is true that in some instances we want our fair share of muscular development, still that alone will not make a man a good operator. What he wants is skill, judgment, a quick eye, and a steady hand; and, as one of our former house surgeons used to recommend to those who had a morning extraction before them, a good beefsteak with their breakfast.

I will now just run over some of the different accidents for which we should always be on the alert and ready to meet when occasion demands. Fracture of the alveolus is very often the result of being too hasty in the attempt to remove the tooth, but under certain circumstances it is almost unavoidable; as, for instance, where there is curvature of the roots, a great divergence of the fangs in the molars, so that the tooth cannot pass from its socket unless one or more of the roots are broken off or the alveolus fractured. Cases of exostosis will also render the alveolus liable to fracture; again, the alveolus may be so firmly attached to the roots of the tooth that fracture will be almost necessary to remove the tooth at all; and, lastly, and perhaps the most common cause, is where the lateral movement is made too suddenly or carried too far, and so fracture again follows. The ordinary fracture—by that I mean where only a small portion of the alveolus is involved—is of no great consequence, and with proper treatment no ill results are likely to follow.

The fracture, however, may sometimes be very extensive, involving the alveolus of from one to three or four of the adjacent teeth, and causing very serious injury, and sometimes the loss of the teeth themselves.

Extensive fracture, however, is, I think, much more rare now than formerly, when less perfect instruments were employed. In a fracture of this kind all the detached portions, whether large or small, should be removed. If such portions are allowed to remain inflammation will ensue, and necrosis of the bone is sometimes produced by detached bone remaining in contact with the living. Whenever the accident does occur I recommend you to keep it to yourself, as patients are always ready to enlarge upon the subject, and by so doing tend to damage your reputation. Another misfortune to which we are liable is hæmorrhage, which is readily met with styptics and astringents.

With regard to the canine teeth, the usual movement is an inward and outward one, but you will often find that a rotary movement will aid you wonderfully; of course, the operator must judge for himself. The same with the bicuspid. One can scarcely feel what movement to make until you have applied your forceps and "feel" which way the tooth gives the most, and act accordingly; only remember that where one bicuspid will come with a distinct rotary movement, another will want a distinct lateral one, as they are very variable with regard to their roots, the first more particularly than the second. The molars also like the inward and outward motion, together with a little traction. Lastly, the wisdom teeth; I think no special rule can be applied for their dislodgment, excepting that in no case is the use of the elevator admissible, as there is the risk of fracturing the tuberosity of the superior maxilla. Sometimes they are very difficult to extract, and, like the opposite sex, want a lot of coaxing.

With regard to the teeth in the lower jaw the inward and outward movement is applicable to all, with the exception of the canines, where, again, you may use the rotary motion. Without further prelude I will endeavour to illustrate a few of the difficulties we have to contend with, and some of the means of surmounting them. I shall only allude to such instruments as may be best adapted to overcome the particular casualty that may arise without attempting to describe all the varieties. The elevator in skilled hands is most invaluable, though, for my own part, I rarely use it, as I have found that in most cases where the forceps have failed the elevator has not been more successful. The most common accident to which we are liable is that of fracture of the teeth, and I am quite sure that no man who has had any experience can honestly assert that he has never broken a tooth. Take the most simple case as an example:—An upper molar with the labial surface decayed right up under

the gum. What is the first thing to do? certainly not seize hold of the remaining portion of the crown with the hope of getting it out, but we must first take a probe and make out, as far as possible, what hold can be obtained on the decayed surface. Having done this and chosen the instrument most suited to the case, we proceed to place it on the tooth. This should be done with as little parade as possible. Always avoid flourishing your instruments before the patients, as it tends to unnerve them, and by so doing you will very probably lose your case. Do not hesitate to tell your patient what you are going to do, and be as gentle and encouraging as possible; at the same time act with firmness and promptitude. Do not let your patient think that he knows better than you. If you do, I pity you. Having applied the instrument, you proceed to push it well up under the gum; in fact, go for the tooth as though it were out of sight. As Mr. Tomes says, "Drive the instrument up as though you intended it should come out at the top of the head." Having tried to do this you grip the forceps with sufficient power to prevent them from slipping, not using too much pressure or you will crush the tooth; you then proceed to the first step towards taking out the tooth, and that is, loosening it or separating it from its attachments. Never attempt to extract a tooth without having first made sure that it is perfectly loose in its socket; this having been done you may whip it out as soon as you like. I am going to suppose, however, that this particular tooth is a little tougher than usual, and after two or three ineffectual efforts to extract it you give rather a harder wrench than usual, with the unpleasant result of breaking the tooth across the neck. Now comes the tug of war. First of all do not get flurried, but keep perfectly cool, and assure your patient that there is little the matter. Direct him to rinse his mouth out thoroughly in order to clear away the blood from over the roots, then find out with the probe the extent of the fracture, the division or non-division of the roots being of the greatest consequence. If they are not divided, in many cases we may stand a fair chance of extracting them at once with the straight stump forceps, our latest pattern being admirably suited to a case of this kind; but should the fracture extend far within the alveolus, it will be necessary to remove the stump separately; in fact, in some instances, where the fangs are very divergent, it will be found necessary to divide them with forceps specially constructed for that purpose.

Laceration of the gums, and even the cheeks and tongue, also come under the head of accidents, though I am inclined

to think that they are more the result of carelessness than accident, and hope it will never be our lot to have to treat such cases. I have still some more misfortunes to warn you against, so that you see our profession is not all milk and honey, as outsiders suppose. Indeed, I think if our patients—when our turn comes to have them—only knew of half the responsibilities we were taking upon our shoulders when they put themselves under our care, would be a little less lavish with their grumblings, and more generous with something else. However, that is not an accident, but, unfortunately, one of the laws of human nature. I think I may finish this chapter of accidents by alluding to two more only, one, the removal of the wrong tooth, and the other, dislocation of the inferior maxilla. For the first, I think there is very little excuse, unless the case is one of those deep-seated hidden affections which are difficult to diagnose.

It does happen, however, that a sound tooth is sometimes removed, and when a mistake of this kind is made the diseased tooth should at once be removed and the healthy one replaced. To ensure success this should not be done unless the patient is in good health, the mouth in good condition, and free from any disease, especially the gums and mucous membrane, so that the attachment may take place with as little inflammation as possible. During the time it is uniting treatment may be required to counteract inflammation. Meagre diet, abstinence from stimulants, and quiet should always be recommended in the case.

Dislocation of the inferior maxilla is generally associated with patients who have large mouths and lax muscles, in fact, with some people it would appear to be a disease entirely under their own control.

Dislocation generally occurs whilst operating on the inferior maxilla, but occasionally it will happen when the operation is on the upper jaw; though this is more from an effort on the part of the patient to open his mouth too wide.

I have had one case of the kind myself. The patient was a thin, wiry-looking little man, who came to have a lower bicuspid extracted under gas. The tooth was very firm, and I had much difficulty in stirring it, and whilst making the lateral movement, judge of my astonishment to see the gag suddenly slip and fly across the room, and his chin drop down on his breast. My feelings can be better imagined than described. However, I held on to the tooth, and in another effort to extract it, the jaw shot back in its place. When the patient came to he asked me if anything had "gone wrong," and I told him what had happened, and then he had the coolness to tell me that it was an

everyday occurrence, and immediately began to demonstrate by taking hold of his jaw at the chin, pulling it downwards and forwards, and so dislocating it. He said he should have told us beforehand, but that he was afraid we should refuse to give him gas.

People have not too many teeth to lose now-a-days, therefore we ought to ask ourselves, in every case where a desire is expressed to have a tooth extracted—Shall I be doing right in removing this tooth?

It is very right and proper that a patient should come to us and be able to point at once to the particular tooth that is a source of annoyance to him, *but*, he has come to us for advice, and he certainly would not have done this unless he had every confidence in us, therefore we should make it our duty to do everything in our power, before extracting the tooth, to alleviate the pain, and, if practicable, to save it. The causes which necessitate extraction are manifold. Amongst the more important are the following:—

“To obtain relief from pain, caused either by disease of the pulp, by inflammation of the periosteum, or by any other affection involving the teeth that cannot be readily controlled without their removal.

“To prevent pain in future. This, of course, has reference only to those teeth which are very much decayed, or rendered useless by any cause, and which are liable at any time to occasion disease in the parts about them.

“To save sound teeth from the attack and ravages of decay. This implies those teeth which by their offensive condition would be injurious to healthy teeth.

“To relieve a diseased condition of the contiguous parts, such as alveolar abscess, neuralgia excited by Dental irritation, diseased antrum, and sometimes, indeed, remote parts, which are in many instances affected by diseased teeth.

“To anticipate and obviate irregularity. Of this there are many cases in which all the teeth cannot be accommodated with a proper position in the arch, and in which the removal of one or more of them for this purpose becomes a necessity.

“Lastly, to prepare the mouth for the reception of artificial teeth. Though plates are sometimes inserted with the roots of teeth remaining, to my mind a perfect operation can never be effected without their removal.”

Of course the operator will have to use his own judgment in every case, and as we cannot set down a law for when a tooth shall or shall not be extracted, so when a patient comes to us complaining of toothache, or any other ache, we

should at once with careful observation and to the best of our ability determine as to the why and the wherefore of such pain, and whether there is sufficient cause to warrant us in extracting the tooth, always bearing in mind that a tooth once lost is lost for ever, and no matter how comfortable or however perfect a substitute may be, there are none like those which nature has bestowed upon us.

And now, gentlemen, I will not trespass on your good nature any longer, but will conclude by asking you to accept my hearty thanks for the very patient hearing you have given me, and I hope that a very lively discussion will be started at once.

In the discussion which ensued the following gentlemen took part:—The Chairman, Messrs. Maggs, Newton, Pedley, Thorman, Rose, Daish, Shillcock.

A vote of thanks was unanimously accorded to Mr. Dewes for his paper, and the meeting terminated.

ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, 12TH DECEMBER, 1878.

DAVID HEPBURN, Esq., L.D.S., President, in the Chair.

THE minutes of the previous meeting having been read and approved of, Messrs. Claude Pierrepont (Bolton) and John Austen Biggs (Glasgow) were proposed for membership.

The meeting then became conversational, the principal topics being the two newer non-metallic stoppings (Fletcher's porcelain and Poulson's), and the mouth-pieces of saliva ejectors.

The meeting then adjourned to January 9th, 1879.

ORDINARY MEETING, 9TH JANUARY, 1879.

DAVID HEPBURN, Esq., President, in the Chair.

THE minutes of the previous meeting having been read and approved of, the following gentlemen were balloted and duly elected members of the Society:—Messrs. Claude Pierrepont (Bolton) and John Austen Biggs (Glasgow).

The discussion on the "New Departure" was opened by Mr. Campbell, L.D.S. (Dundee), who said—

Although I myself suggested the "New Departure" as a

suitable subject for an evening's discussion, I find on again reading Dr. Flagg's paper on this subject that perhaps it would have been wiser to have deferred this discussion until the Principle of the New Theory had been given in a more practical form.

This theory, which Dr. Flagg and others speak of as having been reduced to a science, being so certain in its results, does not consist in the disuse of gold, but in the compatibility of filling material with tooth-bone. But the method of reaching this certainty, so as to apply it in practice, has not yet to my knowledge been given.

All I know of Dr. Flagg is through the 'Cosmos,' but I have learned to respect what he says, and treat it as worthy of consideration. He confesses frankly to having gone to the extreme in favour of plastic fillings. He has done this as a kind of necessity, that he might have a stronger pull on the other extreme—*all-gold* men. He says, "So far from all this being '*guess-work*,' we have a range of 'tests' which tell us very well what we may expect of any material under given conditions. These are such as strength-test, edge-test, setting-test, shrinkage-test, expansion-test, colour-test, heat-tests (wet and dry), leakage-test, frotting-test (for probable wear), acid-test, alkali-test, conduction-tests (electrical and thermal), and finally the oral-test, which decides the compatibility of materials with tooth-bone, and their behaviour *in the oral fluids and under oral influences*. *By means of these tests we are enabled to make a choice of material to meet the varied indications that constantly present in practice, which, to our apprehension, approaches to SOMETHING LIKE SCIENCE*. It is by these means that we frequently combine two, three, four, or more different materials in the filling of one cavity, each of which best subserves its purpose in its appropriate position, and ensures an operation which, for comfort, beauty, and permanency, can *in no other way* be equalled."*

I confess to have now more sympathy with, and more confidence in, plastic fillings than I had a few years ago, and this confidence is growing. I shall therefore be well pleased, although these tests seem to me rather complicated, to have from Dr. Flagg's able pen a statement as to the application of these tests, and the filling material suited to each.

A few years ago it was my practice, the patient being willing, to fill all moderately sized and available cavities with gold. In many of these cases I would now consider such efforts in the use of gold for filling as a waste of time

* 'Cosmos,' September, 1878, p. 481.

and energy, not to speak of the needless tax on nerves and purse of patients which such prolonged operations entail.

I am satisfied nothing can surpass gold as a material for filling when packed *secundum artem*; but in many cavities, such as posterior approximal in back teeth, to reach this standard, even in the most skilful hands, is no easy matter, either for operator or patient. And, even when this standard of excellence can be attained, were I the patient, with my present knowledge, I would have none of it. Why should I, when I know there is a plastic filling which, taking all the little hitches liable to the inserting of a large gold filling into account, is, if not superior, at least little inferior to gold?

The preparation of a cavity into which a plastic material is to be inserted demands the same care as for a gold filling—all fissures thoroughly broken up, the walls smoothed, and finally mopped out with carbolic acid and again dried. When the cavity is large or difficult of access and thus prepared, I fill with “Sullivan”—not the Sullivan of commerce—carefully prepared with pure mercury and washed with absolute alcohol. A tooth filled with this material, which when set, smoothed flush with the walls of the cavity, and polished, I am assured will last equal to, if not longer, than the majority of gold fillings, the only drawback being its colour, but this in back teeth need be no objection.

For a long time I have used this filling material for my poorer class of patients, until I have now come to value it so highly that my wealthier patients can receive nothing better from my hands for the filling of cavities such as I have described.

I would have preferred, as some of you know I intended, making a separate paper “On the Advantages of Sullivan as a Filling for Teeth,” but when asked to take the initiative in this discussion, I could not well speak on the “New Departure” without referring to the advantages gained in the use of this plastic material. In my experience it is the most lasting of all plastic fillings, especially in teeth of average density, where gold would be applicable.

Another decided advantage over all other fillings—except, it may be, that new non-irritant white filling of Fletcher’s, of which I expect much, although I have not tried it in this way—is that it may be placed in the largest cavity, having the thinnest possible septum of bone between the floor of the cavity and the pulp, without fear of after trouble. I have placed it over about a dozen exposed healthy pulps, where the aperture has been small, without after disturbance—at least to any extent,

Formerly my practice was to place a layer of gutta percha over the floor of a deep cavity previous to inserting a large amalgam filling. I found this necessary in all tin and silver amalgams. There must be some saving influence in the oxide of copper, which is speedily formed all round the cavity. The same sort of action seems to result from an amalgam of coin silver filings.

A captain in my neighbourhood occasionally twits me, contrasting *his* Dental skill with mine, showing me a tooth which he filled thirty years ago with the filings of a shilling and mercury. There it is, black enough to be sure, but still serviceable.

One thing I notice about Sullivan—at least as I prepare it—it does not discolour the body of a living tooth; and, in consequence, I sometimes use it in lingual and distal cavities in anterior teeth, where there is some body of dentine.

A lengthened experience of filling materials in actual use in the mouth is of infinitely more value than any number of tests out of the mouth. The tests which Dr. Flagg refers to I have no doubt will be applied *to the mouth*, to ascertain its acrid, alkaline, or electric conditions, which we shall be in a position to value after his *modus operandi* of application, and a clear statement of the filling material suited to each condition, is given us.

I have frequently noticed—whether it be the result of electro-chemical action, or whatever be the cause—that when a gold filling gives way disintegration goes on more rapidly than in some other fillings. This has often struck me as being peculiar, and is one of the principal articles in the new creed.

There are several good workers in search of a lasting white filling. Certainly not the least successful of these is Mr. Fletcher, whose labours may soon, I trust, be crowned with success.

Mr. MATTHEW said he had not many remarks to make on the subject of Mr. Campbell's paper. There was one thing that struck him always most forcibly in regard to it; he thought there was an utter want of novelty about this so-called "New Departure," either in theory or practice. The theory he had no faith in, the practice was familiar to all thoughtful Dentists. Mr. H. W. Freeman had in recent numbers of the 'Dental Cosmos' contributed an excellent paper on the subject, which seemed a most conclusive reply, and well worth the perusal of those who had not read it. He confessed to being very much surprised to hear from Mr. Campbell that exposed or nearly exposed pulps behaved differently under Sullivan cement fillings than they did under

other amalgams. The cases mentioned must have been very exceptional ones. He believed other amalgams would yield equally good results under like conditions. When Mr. Campbell gave it as his experience if dentine decayed more rapidly under gold fillings than any other, it was because gold was more difficult to adapt to the walls of a cavity, the mischief done being in proportion to the leakage.

Dr. W. H. WILLIAMSON was inclined to sympathise somewhat with the "New Departure." In the States, especially among the exclusive users of gold, there exists very great misconception on the subject of amalgams. He had heard a first-rate gold operator say that he considered the average duration of amalgam stoppings to be two or three years, but he (Mr. Williamson) knew from home experience that amalgams inserted in carefully prepared cavities lasted from five to twenty years. He had used Sullivan's amalgam to some extent for over two years, and he had every reason to be satisfied with the result. It was carefully prepared at home, and inserted as dry as possible. Its great virtue was its freedom from raised edges, in marked contrast to the appearance presented by most other amalgams. In many mouths, especially when not exposed to friction, the surface becomes very dark, but in others it is often of a soft grey colour. He might mention an extreme case where, gold not being desired, he had used it somewhat in the spirit of fear and trembling for bad results in the way of discoloration. The patient, a youth about seventeen years of age, with soft bluish teeth, had large symmetrical cavities in the laterals, involving the distal and a large part of the palatal surface, the decay extending up under the gum—the pulp alive in both. There being nothing but enamel in front, a piece of very thin gutta percha was carefully adjusted to that surface and the amalgam packed in behind. In such cases, however, where such a method of filling is desirable, gold leaf is preferable to the gutta percha. These teeth above referred to had now been stopped over two years, and although the surface of the stopping was dark, there was not, even in the margins, the least discoloration. He would like to hear some evidence as to whether the amount of discoloration depended greatly on the presence or absence of the pulp, as, if Mr. Campbell's observation be correct, it would be an important point to know. He did not think it was so good a conductor as most amalgams. For front teeth he considered gold undoubtedly the best material on account of its colour, but in molars, especially in large cavities, Sullivan's amalgam answered the practical purpose of preserving the tooth, without putting the patient to the pain and expense

necessary for the introduction of a large gold filling. Gutta percha was useful in cases where the teeth required to be separated in order to prepare the cavity, and where it would thus be protected from friction on the teeth resuming their position.

Dr. WILLIAMSON showed an American gum block with cavities in the teeth for the insertion of gold fillings.

Mr. MACLEOD had been using Sullivan for upwards of a twelvemonth, and had every reason to congratulate himself and patients upon its use. For *fang stopping* it was in all cases superior to gold; for plugs in posterior cavities it stood before all competitors. Had on two occasions filled over exposed pulps without any intervening non-conductor, and with successful results.

Mr. MACGREGOR endorsed the usefulness of Sullivan's amalgam as a stopping for posterior teeth. Had used it for a number of years, and in most cases found it stand remarkably well, while in others had found the stopping, after having done good service for several years, begin to soften and waste on the surface. Had seen the same thing occur in stoppings inserted by some of the most careful operators. Had very often found in cases of Sullivan stoppings, even when the pulp has not been exposed, an amount of irritation which had given a good deal of trouble, and had sometimes been difficult to allay. Did not think there was anything to equal a gold stopping, carefully inserted and finished, especially for front teeth.

Mr. WILSON thought that there was too great a tendency to regard the "New Departure" theory as a question of Plastic *versus* Non-Plastic, *i. e.* gold fillings. To his reading it was Metallic *versus* Non-Metallic. Incompatibility of filling material with tooth-bone as the cause of failure is the most essential dogma in the new creed. Now, however much the amalgams in general use might differ from one another and from gold in their electric and thermal properties, it was as nothing when either was compared with dentine. Did not therefore see how the advocates of the new theory could consistently support amalgam fillings. Had no doubt but that they were so far right in that the filling of the future would be a non-metallic one. The latest of this class (Fletcher's porcelain) showed a very great advance on its predecessors, and there had been hints even already that something still better might soon emerge from the laboratory of the same indefatigable experimenter.

After a few remarks by Mr. CORMACK,

The PRESIDENT said they were indebted to Mr. Campbell

for opening the question of the "New Departure." Mr. Wilson had called their attention to the theory upon which this "New Departure" was founded, viz. that the composition of a filling to be perfect must closely approximate to that of the tooth structure. Now, while admitting this theory, until they found something more durable than the fillings they now possessed of this character, they must be content to look upon gold as the most effective at their command. It resisted more than any other the action of the secretions of the mouth, combining hardness and durability with no risk of discolouring the dentine. He had always held that some amalgams might be equally durable if worked with equal care and under the same conditions. Sullivan's had always been recognised as one of the best in that respect, and was supposed to have a conservative influence upon the dentine. Its proneness to blacken, however, not only itself but the tooth, had led to its being generally set aside in favour of others which were not supposed to do so. He was rather surprised to hear from Mr. Campbell that, when properly prepared, it did not do so. He had also stated that it might be placed in contact with an exposed pulp without fear of those painful results which usually followed the use of other amalgams in such cases. Seeing copper was as rapid a conductor of heat or cold as any of the other metals in general use for this purpose, he could not understand how this could be. In the cases cited by Mr. Campbell and Mr. Williamson there did not even seem time for the formation of an oxide, which he thought might in some way act upon and protect the pulp. He could not help thinking that they were indebted to some lucky chance for the success which had attended the cases named more than to any peculiar property inherent in the copper filling. He had recently been making use of Fletcher's porcelain cement, and he had done so with great confidence, believing it to be the best of the plastic fillings, as it certainly was the most pleasant to work. Its durability had yet to be tested. Had faith in gutta percha in cavities free from the wear and tear of mastication. On the whole he thought that those gentlemen who advocated the "New Departure" had taken an extreme view of the subject, as their American brethren generally did, and was of opinion that, in pursuing a medium course, making use of all the materials at their command, and applying them to the requirements of each case, they would be able to turn out good, honest work, which would be creditable to members and a source of satisfaction to their patients.

Mr. CAMPBELL, in replying, said—I am glad to hear

Mr. Macleod speak so favorably of Sullivan as a material for fang filling. I strongly recommended it for this purpose in a paper I read before this Society some time ago, and my experience has confirmed this. I agree so far with Mr. Macgregor—nothing can surpass gold for filling within certain limits. What I contend for is the legitimate use of such a plastic material as “Sullivan” in cavities of some size and somewhat difficult of access. Since I have adopted this practice I am not so frequently exhausted and worn out at the end of the day as I used to be. Opinions do not so readily swing to extremes in this country as in America. There amalgams have been spoken of as not only not so serviceable as gold, but positively injurious to health. I have had American patients so strongly prejudiced in favour of gold that I have been compelled, against my better judgment, to use gold for filling when amalgam would have served the purpose equally well if not better. From the *all-gold* extreme there is a danger of Dentists in America going to the other extreme in favour of amalgam. There is, however, little fear, I think, of this happening with us.

The meeting then adjourned.

Miscellanea.

THE WORKING OF THE DENTAL ACT.

By JOHN TOMES, Esq., F.R.S.

THE following paper was read at the meeting of the Dental Reform Committee, December 7th, 1878, in reply to the question put by Mr. Steel. We were unable in our last, from pressure on our space, to do more than briefly allude to it, but we now give it *in extenso*.

Mr. STEEL asked if any information could be given as to the manner in which the registration of Dentists was being conducted, and alluded to reports of the registration of persons who have no just claim to be put upon the Dentists' Register; and also to be informed how registration affected the use of professional titles, it having been stated that new rights as respect titles, &c., were acquired by registration.

The CHAIRMAN, in reply, said,—I am glad to have

received timely notice of the nature of the questions proposed by Mr. Steel. In order to answer them it will be necessary to refer to several sections of the Act, and also to take into consideration their general purpose and their literal meaning. But it must be quite understood that I cannot take upon myself to give any other than a lay opinion, which will be no better or more authoritative than would be the opinion of any other member of the Committee who has given an equal amount of attention to the Dentists Act. So far as I know, the only clause under which any error of a serious nature can arise in respect to registration is Section 6, Clause (c), which entitles persons who at the passing of the act were *bonâ fide* engaged in the practice of Dentistry or Dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, to be registered under the Dentists Act. Now, in interpreting the clauses of this Act we must not for a moment forget that the Act deals with a perfectly open profession like that of architecture or engineering,—as open as is any trade for any person to take up and practice, and to adopt the terms used in such profession or trade,—and converts such an open profession into a closed profession like that of law or medicine, or the trade of the chemist or druggist, in neither of which can a person practise under the usual conditions of practice, or take the titles used by persons so practising, unless he has undergone a special education, and has, after examination, received from an authorised body a qualifying and registerable diploma. The registration of this diploma, in fact, constitutes the legal title to a place in either profession or calling. The Dentists Act absolutely cuts off from registration all persons who were not *bonâ fide* in practice as Dentists (with reservation as regards students, &c.) before July 22nd, 1878; and, moreover, it shuts out from registration, from and after August 1st, 1879, all persons who do not possess a Dental qualification given by a medical authority. In other words, unqualified persons cannot be registered after August next whatever may be the date of their entrance upon practice. These are great powers, and it was right and proper that the clauses of the Act should, so far as they relate to existing practitioners, be drawn in a liberal spirit; and it is only just that such clauses should also be administered in a liberal spirit. What the term *bonâ fide* means, taken in its common sense, we all of us know quite well; its legal sense we must leave lawyers to define. In the 'Imperial Dictionary' the following definition is given:—"In *law* an act done *bonâ fide* is one done with good faith, without fraud, knowledge, or

notice of any deceit or impropriety, &c.” The Act leaves the applicant for registration to say for himself whether he is and was in *bonâ fide* practice, in the form of a solemn written declaration made in the presence of an attesting witness; and a clause of the Act is placed upon the Schedule as a footnote in full-sized type informing the signatories that should the declaration prove to be untrue, they will be liable not to a pecuniary fine, but to imprisonment for twelve months. You require no more of a witness whose testimony may determine whether a prisoner dies by the hangman or not. The words are, I think, as binding as the draughtsman of the Act could make them. I cannot conceive how any prudent, not to say right-minded, person could, under such astringent conditions, ever make a really false declaration.

The Registrar may by a provision in the Act require the declaration to be repeated before a magistrate, but the second declaration, if false, adds (I am told) no further penalty than is incurred by fraudulence in the first.

A registrar is bound to place in the Dentists' register the name of any person who makes the necessary declaration and fills up the required forms, unless he personally knows that the candidate has put forward an unjust claim. But it is not conceivable that he should possess such information. In short, the candidate for registration, under Clause (c) of Section 6, must be registered upon his own responsibility; and it could not have been otherwise, for had a more narrow definition of claims been substituted for that employed in Section 6, Clause (c), some persons would have been shut out who had a right to be included in registration.

But although a person can on his own declaration be placed upon the register, Sections 13, 14, 15, contain very ample provisions for removing his name should it be proved that his declaration is false; that he was not in *bonâ fide* practice at the passing of the Act; that he was not engaged in the practice of Dentistry or Dental surgery in connection with medicine, surgery, or pharmacy, but in connection with some other calling. And here the medical and the chemists and druggists' official registers will come in as evidence, for the names of all qualified medical practitioners, and of all chemists and druggists, are upon, or may be placed upon, their respective registers. In Section 13 the Act says, “The General Council shall cause to be erased from the Dentists' Register any entry which has been incorrectly or fraudulently made;” and in Section 15 a permanent committee of five, with a quorum of three, is provided for judging of the truth of allegations of incorrect or fraudulent entries,

&c.:—"A report of the Committee shall be conclusive as to the facts for the purpose of the exercise of the said powers (of erasing from and restoring to the Dentists' Register the name of a person or an entry)."

It will be seen by any one who gives a little attention to these important Sections 13, 14, 15, that very ample and complete provision is made for correcting the register, in the creation of this committee, whose decisions as to the facts of the cases submitted to them is final.*

For the Registrar to have gone carefully into the evidence of claim of each candidate for registration would certainly have been quite impracticable, not only on account of the endless trouble it would have caused him, and that, too, at a time when his powers were tasked to their utmost to meet the demands of the whole body of Dentists for registration before the end of the year, but also from the needless vexation it would have caused to the very great majority of Dental practitioners. The infliction upon each candidate of such troublesome proceedings, for the sake of excluding a few pretenders, could nowise have been justified. Because a few individuals may be met with whose actions may be unjust, every person must not, therefore, be suspected of wrong-doing and treated as though he were untruthful. It is enough to call a person's claims in question when there is good reason to doubt their truth.

Up to August 1st, 1879, any person may designate himself a Dentist, after that time no person can legally use the title unless his name is in the Dentists' Register, or he is a qualified medical practitioner. Very speedily after that date the Dentists' Register will be published, and then will come the time of reckoning; and that reckoning must in each case be set in motion by those who have the requisite knowledge, and who are most interested in securing a correct register—
THE REGISTERED DENTAL PRACTITIONERS—for it can be done by none else. The Dental practitioners are the only persons who, in their respective localities, know the persons who are in *bonâ fide* practice as Dentists. It will be for them to look over the register so soon as it is published, and if names are found therein which have been wrongfully entered,

* These clauses in their present form were introduced by the Government draughtsman, and were taken from the Lord President's Medical Bill, then before Parliament.

15. The General Council shall for the purpose of exercising in any case the powers of erasing from and of restoring to the Dentists' Register the name of a person or an entry, ascertain the facts of such case by a committee of their own body, not exceeding five in number, of whom the quorum shall be not less than three, and a report of the Committee shall be conclusive as to the facts for the purpose of the exercise of the said powers by the General Council.

the facts of each case must be collected and transmitted to the Registrar of the Medical Council. This is no more than is done by the chemists and druggists throughout the kingdom, whose successful prosecutions of pretenders are frequently seen in their journals ; and the law reports frequently contain cases of persons fined for wrongly assuming medical titles. In each case the information is furnished by persons residing in the locality in which the offence is committed.

The Act furnishes ample and ready means whereby the registered practitioner can defend himself and the public from the future invasion of unregistered persons, and surely he will use the means provided for the maintenance of his rights, both in respect to registration and the use of professional titles. Furthermore, persons who without authority assume the title of Dentist, &c., may be punished for so doing by any one who institutes proceeding against them, but the prosecutor, if a private person, must as a preliminary step obtain the sanction of the Medical Council. The presence of this condition bars the institution of legal proceedings from personal or vindictive feelings on the part of the prosecutor.* But the prohibition of the use of the title of Dentist, &c., by unregistered persons is unconditional. It is not coupled with "intent to deceive," &c., as is the prohibition of the use of medical titles in the Medical Act.

It may be briefly stated that a person who does not hold a Dental qualification recognised in the Act is responsible for his own registration in the Dentists' Register, and if he has abused the confidence reposed in his truthfulness, means are provided for removing his name from the register, and for his punishment ; and, furthermore, that it will be the duty of Dental practitioners, in the interests of the public and of the profession they represent, to make known to the proper authorities all cases that may come to their knowledge in which the confidence of the Registrar has been abused by false representations, or in which the claim to remain in the register is forfeited by notorious misconduct, set forth in Section 13 of the Act.

The effects of registration may be summarised as follows :—

(a.) It frees existing practitioners from legal molestation in the conduct of their practice, and enables them to recover their fees.

* "If a person takes or uses the designation of any qualification or certificate in relation to Dentistry or Dental Surgery which he does not possess, he shall be liable, on summary conviction on such prosecution as hereinafter mentioned, to a fine not exceeding twenty pounds,"—'Dentists Act,' sec. 4.

(b.) It legally records the ground upon which each person is registered,—that is to say, whether on the ground of having been in practice at the time of the passing of Act, or, on the ground of possessing a recognised Dental qualification. In the one case the entry will be, A. B., In practice before July 22nd, 1878. In the other it will be, C. D., Licentiate in Dental Surgery of this or of that College of Surgeons, &c.

(c.) It exempts registered practitioners from serving on juries, all parochial offices, &c., or in the militia.

(d.) The Act as a consequence of registration under Section 6, Clause (c) gives no right to adopt or to continue the use of any professional title or designation which the practitioner could not have used without legal molestation before the passing of the Act; but, on the contrary, it subjects to penalty any persons who use “the designation of any qualification or certificate in relation to Dentistry or Dental Surgery which he does not possess.”

(e.) The handicraftsman who devotes himself to the production of artificial teeth is affected by the Act only in so far as it obliges him to use the appellation of “Artificial Tooth Maker,” or some other suitable name; for the assumption of the title of Dentist, &c., without registration would certainly subject him to a heavy pecuniary penalty.

Exception has been made to the arrangement of the registerable claims and qualifications in one column. The example of the Medical has been followed in the formation of the Dentists’ Register. In the former and frequently (if an early volume be taken), placed side by side, will be found such entries as the following: A. B., In practice before August 1, 1815; C. D., Fellow of the Royal College of Physicians or Surgeons; E. F., Licentiate of the Apothecaries’ Company, &c.; and no practical inconvenience or degradation to the higher qualifications has attended this simple arrangement. Had the Medical Register been published in 1816 the previous practice would, no doubt, have very greatly outnumbered medical qualification entries; and such must of necessity be the case in the Dentists’ Register for 1879.

The questions have been answered at some length, with the hope of rendering assistance in the correction of the vague and incorrect opinions as to the purposes and scope of the Dentists Act, which are held by persons who have given but a limited attention to the matter therein contained.

Commenting on the above the Editor of the ‘Med. Times and Gazette’ writes as follows:

THE DENTISTS' REGISTER.

From the 'Medical Times and Gazette,' January 18, 1879.

THE period during which persons entitled to be registered under the Dentists Act could be registered on payment of a fee of £2 expired with the year 1877, and at the last there was such a rush of applicants that close upon five thousand "Dentists" have now been "conditionally" placed on the Dentists' Register. It is known that very few, comparatively, of these persons possess a licence in Dental surgery or Dentistry of any of the medical authorities, or are entitled to be registered as foreign or colonial Dentists; and it seems almost, if not absolutely, impossible to believe that all, or even nearly all, the rest were, at the passing of the Dentists Act, "*bonâ fide* engaged in the practice of Dentistry or Dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy." No effort of any kind has been made to protect the Register against the admission of any person whose conscience, or ignorance, permitted him to make application in the form prescribed by the Act. The Medical Council allowed the Act to pass without protest, so far as we are aware; accepted, or permitted themselves to be burdened by it with the duties of superintending the education, examination, and registration of Dentists; and then refused to define in any way the expression "*bonâ fide* in the practice of Dentistry or Dental surgery;" and we now see the result. Are the five thousand already admitted to the Register to be permitted to remain on it? It is said that they are only "conditionally registered," and that the Register will be purged of those who have no right to be upon it. But how and when is this process to be effected? The Act provides that any person who wilfully procures, or attempts to procure, himself to be registered, by making or producing, or causing to be made or produced, any false or fraudulent representation or declaration, and any person aiding or assisting him therein, shall be liable to imprisonment. But the only machinery for exercising the power of erasure from the Register is a Committee of the General Medical Council, to consist of not more than five members of that body; and how are they to obtain evidence of incorrect or fraudulent representation? We have received a pamphlet giving an explanation of the Act made by Mr. Tomes to a meeting of the Dental Reform Committee, of which body he is chairman, and it is interesting, though, as it seems to us, far from assuring, to learn what he says on this subject. "Very

speedily after August 1, 1879," he tell us, "the Dentists' Register will be published, and then will come the time of reckoning; and that reckoning must in each case be set in motion by those who have the requisite knowledge, and who are most interested in securing a correct register—the *Registered Dental Practitioners*—for it can be done by none else. The Dental practitioners are the only persons who, in their respective localities, know the persons who are in *bonâ fide* practice as Dentists. It will be for them to look over the Register so soon as it is published, and, if names are found therein which have been wrongfully entered, the facts of each case must be collected and transmitted to the Registrar of the Medical Council." It will truly be an edifying spectacle to see registered Dentists trying to oust each other from the Register! and what a work for those members of the Medical Council who may be appointed on the Erasure Committee! Mr. Tomes thinks that but a very few individuals will have got upon the Register wrongfully, or at least did think so when he made his explanation on December 7 of last year. Does he think so now? According to his view, all who have obtained admission to the Register wrongly are safe till next August at any rate; and how much longer after that time will it be before an expurgated Register is published? The Council are required to cause a correct copy of the Register to be published "at least once a year," and it will certainly take some time to purify and correct the first issue if many persons have got on it without any right to be there. Meanwhile their names will be before the public as registered Dentists; and if they like they will be posing as Dental Surgeons or Surgeon-Dentists. But Mr. Tomes, if we read his speech correctly, takes a very cheerful view of the Dentists Act. He thinks, apparently, that it is the best possible of Acts, and that everything in it is excellent. We are sorry that we cannot agree with him. We do think with him that any Act that converts an open profession into a closed one should be drawn in a liberal spirit, and administered in a liberal spirit. But it appears to us that, in some points at least, the spirit in which the Act has been drawn is that of licence rather than of liberality; and that the way in which it has been administered, so far, is unfortunate alike for the public, the Dental profession, and the Medical Council. It appears to us now that the wisest, and, indeed, a necessary course for the Medical Council to pursue, will be to entreat Government to insert in their Medical Bill a clause transferring the whole management of the Dentists—their education, examination, and registration—to the Dentists themselves.

We must add that nothing that we have said is meant to reflect in any way on the Registrar of the Medical Council. That gentleman has simply and faithfully carried out the directions of the Council; and the only fault that can be found with him is that he has rather increased the immense extra labour imposed upon him by the invariable and untiring patience and courtesy he has shown to all applicants.

THE EDINBURGH DENTAL HOSPITAL AND SCHOOL.

THE following advertisement in the ' Scotsman ' tells its own tale, but, we must add that we most cordially welcome this new candidate for public and Dental support into the field of charity and teaching. If the Irish have been foremost in catching up the old undiplomaed practitioners, the Scotch have certainly got ahead of them in establishing a well organized hospital for the instruction of the coming Dentists :

THE EDINBURGH DENTAL HOSPITAL AND SCHOOL, 30, CHAMBERS STREET.

President.

THE EARL OF ROSEBERY.

Vice-Presidents.

The LORD PROVOST, *ex-officio*.

Sir ALEXANDER GRANT, Bart., Principal, E.U.

Hon. Lord SHAND. | Dr. OMOND, F.R.C.S.E.

Directors.

Dr. PEDDIE, P.R.C.P.E.

Dr. HERON WATSON, P.R.C.S.E. } *ex-officios.*

Dr. A. H. DOUGLAS, F.R.C.P.E.

Dr. GILLESPIE, F.R.C.S.E.

Dr. KEILLER, F.R.C.P.E.

Dr. LITTLEJOHN, F.R.C.S.E.

Dr. ZEIGLER, F.R.C.P.E.

Baillie ANDERSON.

W. E. LOCKHART, Esq., R.S.A.

Rev. D. FOX SANDFORD, LL.D.

Rev. Dr. LINDSAY ALEXANDER.

Dr. DYCE, F.R.C.S.E.

Dr. ROBERTS.

Professor TURNER, University.

Dr. A. MACDONALD, F.R.C.P.

Councillor CLAPPERTON.

ROBERT REID, Esq., Dental Surgeon.

Rev. Dr. JAMES MACGREGOR.

Rev. Dr. ANDREW THOMSON.

Consulting Officers.

Professor SAUNDERS, F.R.C.P.E., Physician.

Professor SPENCE, F.R.C.S.E., Surgeon.

Dr. JOHN SMITH, F.R.C.S.E. (Surgeon-Dentist to the Queen),
Surgeon-Dentist.

DENTAL STAFF (with Days of Attendance).

Dental Surgeons.

Dr. ORPHOOT and Mr. C. MATTHEW	Monday.
Mr. D. HEPBURN, L.D.S., and Mr. J. T. CUNNINGHAM, L.D.S.	
	<i>Tuesday.</i>
Mr. BOWMAN MACLEOD and Mr. FINLAYSON	Wednesday.
Mr. A. WILSON and Mr. GEORGE W. WATSON	Thursday.
Dr. CHISHOLM and Mr. MACGREGOR	Friday.
Mr. CORMACK, L.D.S., and Dr. ROBERTS	Saturday.

Assistant Dental Surgeons.

Mr. J. K. CHISHOLM, Mr. H. A. ROBERTS, and
Mr. E. A. CORMACK.

The EDINBURGH DENTAL DISPENSARY has been REMOVED to the DENTAL HOSPITAL AND SCHOOL.

Attendance every morning (except Sunday) between Nine and Ten o'clock.

By order,

WM. KELSO THWAITES, S.S.C., *Secretary.*

REGULATIONS TO BE OBSERVED BY CANDIDATES FOR
THE DENTAL DIPLOMA OF THE ROYAL COLLEGE OF
SURGEONS OF EDINBURGH.

THE Royal College of Surgeons of Edinburgh having, in accordance with the provisions of the Dental Act of 1878, arranged to hold examinations and grant a Diploma in Dental surgery, the following gentlemen have been elected as the Dental Examining Board :

Dr. P. H. Watson, Pres., R.C.S.E. ; F. B. Imlach, Esq., F.R.C.S.E. ;
Dr. John Smith, F.R.C.S.E. ; Dr. Roberts ; Dr. Orphoot ; Dr. Hogue.

COURSES OF INSTRUCTION RECOGNISED.

Every candidate for the Dental Diploma must have attended the general lectures and courses of instruction required, at a university or an established medical school recognised by the college as qualifying for the diploma in surgery. The special courses of instruction may have been followed in a recognised Dental hospital or school, or by teachers recognised by the College.

EXAMINATIONS.

The Dental examinations shall be both written and oral, and be conducted in the same manner as the ordinary surgical examinations. The examinations shall consist of two separate sittings, and be held subsequent to each period of the ordinary examinations on such days as the College may appoint. Candidates must apply to the secretary of the College on or before the Saturday preceding the ordinary examinations, and must then produce all the required certificates of having passed the preliminary examination, and of having attended the lectures and other prescribed courses of instruction.

PRELIMINARY EXAMINATION.

Candidates for the Dental Diploma must produce evidence of

having attained the age of twenty-one years, and will require to produce a certificate of having passed the preliminary examination in general education required for the ordinary license in surgery, or an examination equivalent to this, and recognised by the General Medical Council—except in the case of candidates who shall have commenced their professional education previous to the first day of August, 1878.

PROFESSIONAL EXAMINATIONS.

Candidates will also be required to produce certificates of having been engaged during four years in the acquirement of professional knowledge, and of having been during that period, or at some time previous to their examination, engaged for not less than three years in the acquirement of a practical knowledge of mechanical dentistry with a practitioner registered under this Act.

LECTURES AND HOSPITAL ATTENDANCE REQUIRED.

The following lectures and other courses of instruction must have been attended by candidates for the Dental Diploma, at a recognised medical school or schools; and the number of lectures in each of the general courses must correspond with those required for the surgical diploma of the College:

Anatomy,	One winter course.
Dissection and demonstrations,	Nine months.
or	
Dissection	{ Nine months.
and	
Anatomy of Head and Neck,	{ One course of twenty lectures.
Physiology,	{ One course of not less than fifty lectures.
Chemistry,	One winter course.
Surgery,	One winter course.
Medicine,	One winter course.
Materia Medica,	One course of three months.
Practical chemistry and metal-	{ One course of three months.
lurgy,	
Clinical Instruction in Surgery at	{ One course of six months, or
a recognised Hospital.	{ Two courses of three months.

In addition to these, candidates will require to have attended the following special courses of lectures and instruction, by teachers recognised by this College—each course consisting of not fewer than twelve lectures:

Dental Anatomy and Physiology,)	
Dental Surgery and Pathology,)	One course of each.
Dental Mechanics,)	

Two years' attendance at a Dental hospital, or the Dental department of a general hospital recognised by the College.

Candidates who are licentiates of this College, or who may be registered medical practitioners, will require to produce certificates of attendance on the special subjects only, and will be examined in these only for the Dental Diploma.

SUBJECTS OF EXAMINATION.

The ordinary subjects of examination will be Anatomy, Physiology, Chemistry (including Metallurgy), Surgery, Medicine, and Materia

Medica; and the special subjects will be Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics. Anatomy, Chemistry (with Metallurgy), and Physiology, will form the subjects of the first examination; Surgery, Medicine, Materia Medica, and the special subjects, those of the second.

TITLE AND DIPLOMA.

Those candidates who pass this examination shall be entitled to the designation of Licentiate in Dental Surgery of the Royal College of Surgeons of Edinburgh, and shall obtain the Dental Diploma of the Royal College.

FEEES, &C.

The fee for the Dental Diploma shall be ten guineas. Each candidate, for the first examination, shall pay to the secretary of the College the sum of four guineas not later than nine A.M. of the Saturday preceding the ordinary examinations; and in the event of a candidate being unsuccessful two guineas will be returned to him. Where the candidate is successful the sum of four guineas will be considered as paid to account of the Diploma. Each candidate for the second examination shall pay to the secretary of the College the sum of six guineas not later than nine A.M. of the Tuesday preceding the second examination; and in the event of his being unsuccessful three guineas will be returned to him. No candidate will, if unsuccessful, be remitted for a shorter period than three months. These rules will apply to any subsequent rejection.

EXAMINATIONS SINE CURRICULO.

Candidates who were in practice before the first day of August, 1878, or those not in practice but who had commenced their apprenticeship as Dentists before the first day of August, 1875, and who are unable to furnish the Board of Examiners with the certificates of lectures and hospital attendance required by the foregoing regulations, shall produce:

1. A certificate of moral and professional character, signed by two registered medical practitioners, together with the full name, age, and address of the candidate.
2. The date of commencing practice or apprenticeship as a Dentist, and whether, if in practice, such practice has been carried on in conjunction with any other business, and if so, with what business.
3. Whether he has any degree or Diploma in Medicine or Surgery, and if so, from what college or university, or other body, and at what time it was obtained.
4. The particulars of professional education.

The President's Council shall, on such information being afforded them, determine whether or not the candidate is entitled to be admitted to examination for the Dental Diploma, and such examination shall, with the exception of the preliminary examination, and the exemptions in favour of registered medical practitioners, as before explained, be passed on the same subjects and in the same manner as is required for other candidates, and will confer the same privileges.

APPENDIX.

The following will be the periods of examination for the year 1879:

I. Preliminary Examinations in General Education.

On Tuesday and Wednesday, April 15th and 16th, 1879.

On Saturday and Monday, July 12th and 14th, 1879.

II. First Professional Examinations.

On Tuesday, January 28th, 1879.

On Tuesday, April 1st, 1879.

On Tuesday, April 22nd, 1879.

On Tuesday, July 22nd, 1879.

III. Second Professional Examinations.

These will take place immediately after the conclusion of the First Professional Examinations, at each of the above-mentioned periods. They will generally be begun on the Thursday succeeding the day of the First Examination, and in no case on an earlier day. The Dental Examinations will be held subsequently.

As frequent instances have occurred of inattention to the times for lodging the certificates and the fees of candidates, causing great disappointment to themselves, it is hereby notified that unless these rules are exactly observed, the examinations of such candidates may require to be postponed. The safest and best method of remitting money is by an order payable at sight at a bank in Edinburgh to Mr. Joseph Bell, the Treasurer, and crossed in the usual manner. Cheques on the bank-account of any individual cannot be received, as they are worth nothing till paid by the banker on whom they are drawn, which implies both time and trouble, besides charges for negotiating the cheque.

REGULATIONS FOR THE DENTAL DIPLOMA OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE Dental Board of Examiners shall consist of three Fellows of the College, three Registered Dentists, and the President, Vice-President, or other Member of the Council of the College (summoned in rotation); and the Member of the Council so attending shall act as Chairman of the Board; five Members of the Board shall form a quorum.

The Board shall have the absolute power to refuse the application of any Candidate.

Examinations shall be held at such times as the Council shall direct.

The Examinations, up to the 1st day of August, 1881, shall be of a practical character, embracing the Anatomy, Physiology, Surgery, and Pathology of the Teeth, Jaws, and surrounding parts, and Mechanical Dentistry; and shall be partly Written and partly Oral.

All Candidates shall lodge with the Registrar of the College, at least one fortnight previous to each Examination—

I. A Certificate of having attained the age of twenty-one years.

- II. Certificates from two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the Candidate is of good character, has been engaged in the practice of Dentistry for at least five years, and has refrained from advertising or other unbecoming modes of attracting business for at least two years previously.
- III. A Certificate of having lodged in the Bank of Ireland, to the credit of the College, the fee of Ten Guineas, half of which shall be returned to any Candidate who fails to satisfy the Examiners.

After the 1st day of August, 1881, no Candidate shall be admitted to Examination who has not pursued the following curriculum, and lodged with the Registrar of the College, at least a fortnight previous to Examination—

- I. A Certificate of having attained the age of twenty-one years.
- II. A Certificate of having been engaged during four years in the acquirement of professional knowledge.
- III. Certificates from two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the Candidate is of good character.
- IV. A certificate of having passed the Examination in Preliminary Education of one of the Examining Bodies recognised by the General Medical Council.
- V. A Certificate of having lodged in the Bank of Ireland, to the credit of the College, the fee of Ten Guineas, half of which shall be returned to any Candidate who fails to satisfy the Examiners; and no Candidate can present himself for re-examination for six months.
- VI. Certificates of having attended in a recognised School—
 - One Course of Lectures on Anatomy and Physiology.
 - Two Courses of Dissections, with Demonstrations.
 - One Course of Lectures on Surgery.
 - One Course of Lectures on Chemistry.
 - One Course of Practical Chemistry, and Metallurgy.
 - One Course of Lectures on Materia Medica, and
 - Two Courses of Lectures on Dental Surgery, including Dental Mechanics.
- VII. Certificates of having attended general hospital practice for two winter sessions; and the Dental department of a general hospital, or a special Dental hospital for a further period of nine months.
- VIII. A Certificate of having been engaged during at least three years, in acquiring a practical knowledge of Dentistry, under the instruction of a registered licentiate in Dentistry of one of the licensing bodies.

The Examinations shall include all the subjects of the foregoing curriculum, and shall be partly written and partly oral, preparations, microscopes, and other appliances being used.

Licentiates in Surgery, or Fellows of any College in the United Kingdom, and Graduates in Surgery of any University recognised by this College, will be examined only in subjects special to Dentistry.

N.B.—Every successful Candidate, previous to receiving the

Licence, shall declare that he will not advertise, or pursue any other unbecoming mode of attracting business, so long as he holds the Licence in Dentistry of the College.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following were some of the questions put to candidates at the *viva voce* examination :

To what cause do you assign the degeneration of the teeth of the present day?

How is civilisation inimical to the teeth?

What are the constituents of the teeth, and whence derived?

How does the use of soft cooked food affect the teeth?

What is the effect of the partial disuse of such organs as the muscles of mastication?

Describe the difference between the maxillæ of a savage and of a modern civilised being, and show how the teeth may suffer in consequence.

How may premature education affect the teeth?

Give the difference between supplemental and supernumerary teeth.

What is the distinguishing feature in syphilitic teeth?

What may cause a V-shaped maxilla, and with what is it frequently associated?

What causes contribute to produce protrusion of the front teeth, upper and under?

What fungoid growths are found in the mouth, and what parts do they affect?

Describe an epulis and give treatment, also ranula and treatment?

How is absorption effected?

How would you reduce a luxation of the jaw unilateral and bilateral?

Give the names of the principal authors who have written on the anatomy, histology, and surgery of the teeth during the last hundred years.

APPEAL ON BEHALF OF THE WIDOW OF THE LATE MR. PHILIP CAFFERATA, L.D.S., OF SUNDERLAND.

	£	s.	d.		£	s.	d.
To amount acknowledged				Manchester Box	0	7	0
in January Journal	46	10	6	Mr. Frank Bennett	0	10	6
Mr. Dreschfield	0	10	0				
Mr. Bacon	1	1	0	Final total	£50	0	0
S. L.	1	1	0				

APPOINTMENT.

MR. M'CALL has been elected Assistant House-Surgeon to the Dental Hospital of London.

Obituary.

MR. HENRY SMALE.

WE have to regret the death of Mr. Henry Smale, of 19, Great Marlborough Street, senior member of the firm of Smale, Brothers, by acute bronchitis, on Saturday, January 11th, aged 64, after an illness of only four days.

Mr. Henry Smale in early life was articled to Mr. Lemale, who entertained the most sincere friendship and regard for his former pupil, up to his demise. By the introduction of Mr. Lemale, Mr. Arnold Rogers found in Mr. Henry Smale a valuable assistant, and esteemed him for his high mechanical culture and disinterested service. About the year 1840, he became an active member of the firm Smale and Sons, and up to the time of his death took a most lively interest in all the advanced mechanism of the modern Dental appliances.

Many Dentists of London and the provinces will, we feel assured, join us in regretting the early death of one who was to many of them a genial friend.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

THE STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON
TO THE EDITOR OF THE 'BRITISH JOURNAL OF DENTAL
SCIENCE.'

SIR.—It is with much pleasure that we convey to you the following resolution, which was unanimously passed at the last meeting of the above Society, held on Monday, February 10th. Resolved, "That the best thanks of the Society be accorded to Mr. Charles James Fox, the Editor of the 'British Journal of Dental Science,' for the continued warm interest he has taken in the Society during the past twelve months, as evinced especially by his generous kindness in presenting each member with copies of the proceedings of the Society at its monthly meetings, as in former years.

We remain, dear Sir,

Yours faithfully,

F. NEWLAND PEDLEY, } *Hon. Secs.*
J. BERNARD MAGOR, }

February 12th, 1879.

THE MUSEUM OF THE ODONTOLOGICAL SOCIETY.

To the Editor of the 'British Journal of Dental Science.'

DEAR SIR,—Bearing in mind an appeal made through your columns some years since on behalf of the Museum of the Odontological Society, I, about eighteen months ago, forwarded through Messrs. Ash and Sons part of the lower jaw of the extinct Diprotodon, thinking such a specimen would be an acceptable present to their museum; at the same time I notified their worthy Honorary Curator of the present being forwarded. I received a letter from Messrs. Ash, saying they had forwarded it to the Society, and that is all. Have the Society received it, and not considered it worthy of acceptance? or have they not received it? That I may be enlightened thereon, I make the inquiry through the pages of your Journal, and shall await a reply with some anxiety, for I consider an acknowledgement is but common courtesy, if it is to the antipodes even.

I remain, yours, &c.,

Brisbane, Queensland.

D. R. EDEN.

It is much to be regretted that by any inadvertence Mr. Eden should not have received a letter of thanks; but that his presents were not only received, but also duly appreciated, is attested by the following extracts from the 'Transactions' of the Society, vol. ix, p. 264:—"The Curator begs to acknowledge the following donations to the Museum, which came to hand too late to be presented at the June meeting of the Society. Presented by D. R. Eden, Esq., Brisbane—Portion of lower jaw of Diprotodon, skulls of *Macropas major*, &c. &c.;" and vol. x, p. 47 (Curator's Annual Report):—"Among the more valuable presents, may be noted a fine lower jaw of the gigantic extinct kangaroo (Diprotodon), presented by Mr. Eden." Still, though a glance at the 'Transactions' might have satisfied Mr. Eden of the fate of his donation, as well of the high appreciation in which it was held, an apology is none the less owing to him for the accidental and unfortunate omission of a formal letter of thanks.—C. S. T.]

MR. HEMPEL'S PATENT DETACHABLE SPRINGS AND SWIVELS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—May I be allowed to call your attention to a few of the remarks made at the annual meeting of the Odontological Society on the 13th of January last, in reference to the newly invented patent removable springs and detachable dental fittings.

Permit me, in the first place, to say that nothing, to my knowledge, has ever been produced, taking them as a whole, in any way approaching their utility; also that the swivel alluded to by the president, Mr. Alfred Coleman, merely consists of a loose collar round the shank of an ordinary swivel, whereas my invention consists of improvements in dental springs and fittings throughout; and the very fact of this being intended as a means of self-aid in all cases of emergency renders them most valuable to those constantly in the habit of wearing springs, and also to persons using the suction palate they will be found most advantageous for occasional use, as they can be put on and off momentarily without the slightest trouble, and with such ease that a blind person, after once using them, could attach or detach them with the greatest rapidity.

Mr. Rogers in his printed "Directions to replace a Broken Spring by a New One," says:

"1st. In detaching the broken end of the spring from either frame (upper or lower) let the left hand hold the frame by the side only (right or left), where the broken spring is (for the frame, if grasped by both ends, might be injured).

"2nd. To detach each broken part of the spring, &c., &c."

Without wishing for one moment to depreciate Mr. Rogers' system, which is an undoubted improvement upon the old plan, I must confess my inability to see any similarity between my catch-lock and his shank collar.

A perusal of the printed instructions already referred to at once shows that, meritorious as Mr. Rogers' system is, the attachment requires more than ordinary care, and an unskilful patient may destroy the spring by straining. (See paragraph 3 of the instructions.)

Now, sir, such a *contretemps* is almost an impossibility with my catch-plan, inasmuch as the catch guides itself into the socket, and requires no manipulation to fit it into its place. Again, Mr. Rogers recommends the help of a pen-knife in pulling off the broken spring. No other aid but that of the fingers need be used with my patent, which may not be considered one of the least of its recommendations. To sum up, Mr. Rogers' system has a single rotatory motion, while with mine a double rotatory motion may be obtained.

In conclusion I have to thank Mr. Oakley Coles for his courtesy in calling attention to my invention, and for the kindly interest he has taken in it; also my acknowledgments are due to the able President of the Odontological Society, Mr. Alfred Coleman, for his very complimentary remarks. Apologising for taking up so much of your valuable time and space,

I am, &c.,

A. HEMPEL.

14, Charles Street, Soho, W.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Can you inform me if there is an institution called the Royal College of Dental Surgeons, Canada? I have lately seen a circular of "Specialities" (for example, Mechanical Dentistry, Decayed Teeth, Painless Extractions, &c.) in which the following occurs:—"Mr. —, L.D.S. (Licentiate in Dental Surgery), Royal College of Dental Surgeons, Canada, and Registered Dental Surgeon, England."

After reading the letter signed "Chas. J. Essig," read before the General Medical Council on December 11th, 1878, one is curious about these foreign diplomas, more especially as we learn that many of them are "manufactured in England (the Isle of Jersey)."

Yours, &c.,

J. C.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Can any of your readers inform me through your valuable Journal if there are any means of obtaining a good colour in pink vulcanite cases, I mean at the present time, when we get such little sun? If you can inform me of any artificial means you will greatly oblige

Yours, &c.,

ASSISTANT.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I do not know whether you append to each volume of the 'British Journal of Dental Science' a list of "errata;" but if you do, please note the following in my letter in your last issue (which I am agreeably surprised to find you so cordially approve of):

p. 46. *For* commence, *read* commenced.

p. 47. „ examiner „ examiners.

„ „ begot „ begirt.

I think I ought to have said, referring to the length of practice, from *fifteen* to *thirty* years.

Yours, &c.,

EDWIN COX.

[WE much regret the errors, but the letter reached us late, and we did not see a proof. Mr. Cox's "surprise" only shows how often we are misunderstood. — ED. 'B. J. D. S.']

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :

Twelve Months (post free) 13s. 0d.

 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
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Communications received from W. Hodgskin Hope, J. S. Turner, Alfred Coleman, G. Barth & Co., J. Crooks Morison, W. Lloyd Poundall, F. H. Balkwill, H. Rogers, Thomas Geddes, Dr. Cook, Oakley Coles, David Hepburn, the Hon. Secs. of the Students' Society, D. R. Eden, C. S. Tomes, A. Hempel, "J. C.," "Assistant."

BOOKS AND PAPERS RECEIVED.

- 'Jersey Times.'
 - 'The Scotsman,' Jan. 29, 1879.
 - 'Journal of the Chemical Society.'
 - 'Glasgow Medical Journal.'
 - 'Transactions of the Odontological Society of Great Britain.'
 - 'Deutsche Vierteljahrsschrift für Zahnheilkunde.'
 - 'Educational Times.'
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NOTICE.—Owing to the pressure on our space, numerous correspondents have remained unnoticed; they shall receive attention in our next; and should we unintentionally neglect any, may we beg for a reminder from them?

British Journal of Dental Science.

No. 273.

LONDON, MARCH, 1879.

VOL. XXII.

Dental Surgery and Medicine.

INJURIES AND DISEASES OF THE ANTRUM.

A paper read before the Students' Society of the Dental Hospital of London, October 21st, 1878.

By J. B. MAGOR, Esq.

(Continued from page 52.)

THE treatment of a thoroughly established case of suppuration in the antrum consists, briefly, in making a free opening into the antrum at its most dependent part, so as to completely evacuate all its fluid contents; in next carefully searching for, and removing, all foreign bodies; in thoroughly washing out the cavity with warm water, and in the constant use of disinfectant, healing, and astringent stimulating lotions till the parts are restored to a healthy state.

The opening should be of some size, so as to ensure complete emptying of the cavity, and to enable the operator to cleanse its interior thoroughly. Its situation, and the method of making it, will vary according to circumstances; thus if the collection of matter be clearly, or even probably, traceable to a diseased tooth, the tooth should be extracted; its removal may be followed by the exit of a large portion of the pus, and the vacant alveolus need then only be enlarged sufficiently to permit of ready access to the antrum. If, however, there be no decayed tooth, a sound one may be removed, and the most suitable is generally the first permanent molar if present. It is usually in closer proximity to the antrum than the other teeth, and its greater liability to decay renders its loss of less consequence than that of another tooth. If, on the removal of a tooth, the cavity be not opened, a trocar should be passed into the empty socket and forced through the intervening bone into the antrum. In doing this the finger should be so placed on the trocar as to keep the instrument from going too far and striking against

the floor of the orbit, as, from the force sometimes needed to pierce the bone at the apex of the alveolus, the point may penetrate into the orbit and seriously damage its important contents.

But in cases of antral disease in edentulous persons, or when, owing to the swelling of the surrounding parts, the mouth cannot be opened sufficiently to permit of the removal of a tooth, the perforation may be made through the bone in the canine fossa; the gum being divided right down to the bone, a trocar or a closed pair of strong scissors (as recommended by Sir Benjamin Brodie) is thrust, with a boring motion, into the antrum, at its anterior and lower part, the same care being here taken to prevent the instrument used from crossing the cavity with so much force as to damage other structures lying behind it.

This part of the treatment was introduced by John Hunter, who says :

“The first part of the cure, as well as that of all other abscesses, is to make an opening, but not in the part where it threatens to point, for that would generally be through the skin of the cheek. If the disease is known early, before it has caused the destruction of the forepart of the bone, there are two ways of opening the abscess, one by perforating the partition between the antrum and the nose, which may be done, and the other by drawing the first or second grinder of that side, and perforating the partition between the roots of the alveolar process and the antrum, so that the matter may be discharged for the future that way.

“But if the forepart of the bone has been destroyed, an opening may be made on the inside of the lip, where the abscess most probably will be felt; but this will be more apt than the other perforation to heal up, and thereby may occasion a new accumulation, which is to be avoided if possible by putting in practice all the common methods of preventing openings from healing or closing up; but this practice will rather prove troublesome, therefore, the drawing of the tooth is to be preferred, because it is not so liable to this objection.”

Such severe cases as that mentioned by Hunter in the above sentences, where the “forepart of the bone is destroyed,” are seldom met with now-a-days, although such cases sometimes come under treatment, especially in hospital practice. In the Anatomical Museum of King’s College is a preparation of the maxilla of an old woman who came under the care of Sir William Fergusson; the pus had eaten a hole, at least two inches in diameter, through the anterior wall of the antrum, so that the cavity was only bounded on

that side by the soft-tissues of the cheek ; the abscess, when first presented for treatment, being a membranous bag distended by fluid.

A suitable opening having been made, the antrum must be thoroughly washed out with warm water, in order to free it from every particle of unhealthy secretion and inflammatory débris. The use of a piece of elastic catheter, attached to the nozzle of your syringe, or of an ordinary Eustachian catheter, fitted to an india-rubber injecting bottle, as recommended by Heath, facilitates the process of washing out the cavity, a matter which is sometimes complicated by the presence of the "loculi" formed by bony septa. Every one of these places must be thoroughly irrigated if a satisfactory result is to be obtained,

(To be continued.)

SALIVA APPARATUS.

By P. ORPHOOT, Esq., M.D.

SINCE this apparatus was described in the 'Transactions of the Odonto Chirurgical Society' rather less than a year ago, one or two improvements have been made upon it, the results of which may be interesting to those who happened to notice the subject. I would not have ventured to encroach on the valuable space of the journal, were it not that the apparatus has become an easily applied, cleanly and effectual mode of removing saliva, and that by its use the labour and anxieties of stopping are infinitely lessened.

It may not be out of place to recapitulate that the apparatus consists of the lingual tube (Fig. 1) which is placed between the teeth and the tongue, where it performs the threefold function of draining the submaxillary saliva, protecting the teeth from the tongue, and having the brightly polished oval shield to act as a reflector of light on the cavity. Fig. 1, shows the curves which are necessary. The larger tube c.c., is of tin, the softness of which allows of bending in any direction, and the small curved tube (*b*) which goes into the mouth is German silver, the advantage of which metal over sterling silver is that of greater rigidity. The diameter of the large tube need not exceed a quarter of an inch, and two-sixteenths of an inch is the proper size for the lesser one. At (*d*) are the openings for the saliva. Half the number of what are marked would be sufficient, and they should be placed at the distal end of the tube, so as to reach the lowest level in the floor of the mouth. If the Fisk

ejector is used, it is better to have two or three small holes, than a large one, as in the latter case it will be found that fragments of stopping, &c., are forced into the tube, and cause a block at the ejector. A kind of strainer therefore is necessary. The oval shield (*a*) should vary a little to suit the different sizes in tongues, and the depth of jaws, and although I found one of medium size to answer in many cases, a great improvement has been effected in having the shields made moveable, so that different sizes may be put on one lingual tube. A slide has been placed over the saliva openings, which allows the shield to be situated opposite any tooth, even the third molar.

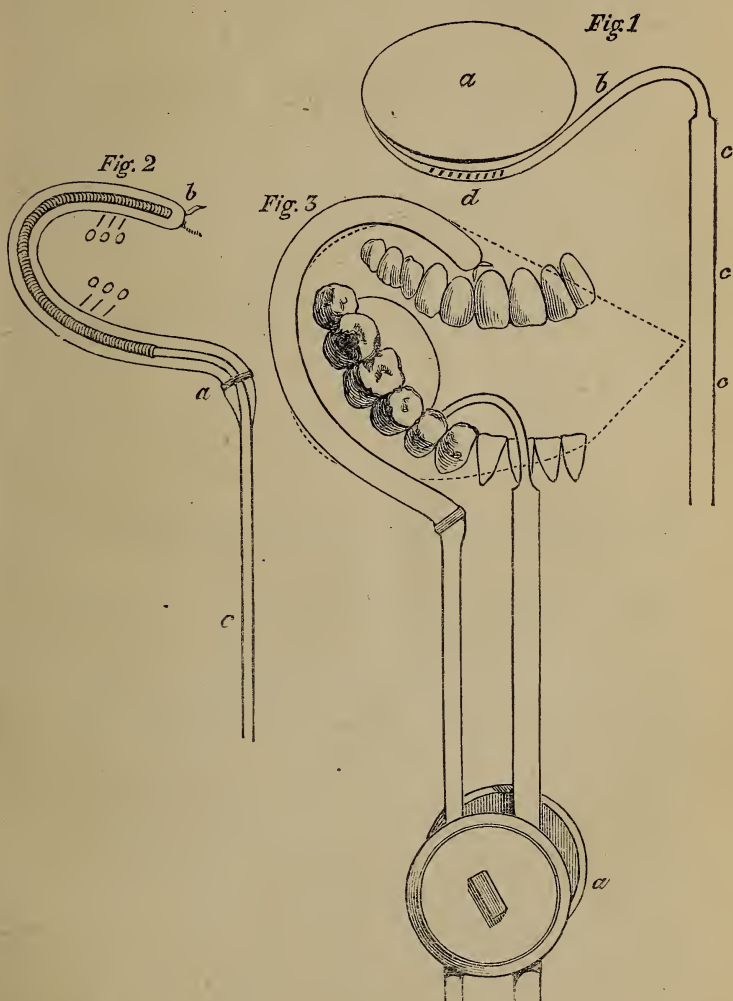
Fig. 2 represents the parotid tube, which is the result of efforts to give increased steadiness to the lingual tube while in the mouth. Although the lingual tube usually keeps its position quite well, the oftentimes heavy pressure of the tongue greatly conducing thereto, it seemed possible to arrange for another improvement. The former description of this apparatus mentioned a spiral spring about four inches long, and rather more than two-sixteenths of an inch in diameter, which was rolled in a small napkin or in absorbent paper, and bent so that the free ends would lie along the upper and lower alveoli, and project a little from the mouth. This has been altered by the addition of a bent tube (of tin and German silver) to the spiral spring (Fig. 2). The spring is now *loosely* covered by a short length of soft india-rubber tubing, the distal end of which is securely closed by a tight ligature at (*b*). At (*a*) there is a metallic collar soldered to the German silver tube, over which the open end of the rubber tube is drawn, and by means of which a perfect vacuum is ensured.

Two, or at most three, small holes must now be made in the rubber tube for the admission of saliva. If the case is an upper tooth the holes may be at *o.o.o* in the lower surface of the tube which lies along the upper jaw, and as near the parotid duct as possible. If for a lower tooth *o.o.o* shows about the part of the tube suitable for the openings, but they should of course be on the upper or exposed surface of the tube.

It is of consequence to notice that the soft rubber tube allows the use of a *strong* spiral spring without hurting the patient, the importance of which is that while the parotid saliva is being removed, the soft parts are cleared away from the labial surfaces, and by the bending outwards and downwards of the tin tube, the cheek may be drawn aside to any extent.

Fig. 3 shows the apparatus in action. The steadying of

both tubes in the mouth is effected by connecting them at (*a*), and for this purpose I worked with a thin slip of wood which was perforated for the tubes. The perforations were lined with india rubber of a thickness sufficient to hold the



tubes, and yet not too tightly, so that they could easily be moved. A very convenient clamp has, however, been devised by Mr. Matthew, of this city (*a*), Fig. 3. Two circular pieces of wood lined with rubber and connected by a screw

holds the tubes firmly, and allows of rapid changing. I may mention that in one or two restless cases I found much assistance from the simple plan of passing a light india-rubber band (cut from the rubber dam sheet) over the two tubes above the wood clamp, and with a hook at each end of the band, tightening or slackening it as necessary. This answered so well in every respect, that I have permanently adopted it.

Each tube should be tried in the mouth singly before they are clamped together. See that the shield of the lingual tube will keep off the tongue, and bend the tin tube to the line of the patient's chest. The only point to be attended to in connection with the parotid tube is to place the holes in the rubber tube where they will meet the saliva, and this is easily done by drawing the rubber tube either off or on the spring until the proper point is reached.

While describing this part of the contrivance I have to state that I understand the *theoretical* difficulties as to the parotid tube, and frankly admit that I was not prepared to find it of much use in stopping upper teeth. Experiments proved that such views were wrong, and the result is that I do not hesitate to use adhesive gold for upper teeth by the help of the parotid tube. No one without seeing it could credit the length of time during which a pellet of prepared cotton wool will remain dry in an upper cavity, especially in the bicuspid and first molar, the explanation of which appears to me to be that the Fisk ejector which I use, (one for each tube) acts with such vigour that the parotid saliva which must first come into contact with the india-rubber tube, has not time to reach the gums and teeth, as it is instantly drawn into the tube. It must be remembered also that the spring will to a certain extent at least, act as a compress to the orifice of the duct.

Within the last three days a case of hæmorrhage showed the power of the apparatus. A young man of rather a bleeding tendency had a left lower first molar root removed, the socket of which bled profusely for twenty-four hours. At his second visit the mouth was in the usual state of overflow with blood, clot and saliva, and after washing out everything, the tubes were applied. The lingual shield did good service in keeping a large flabby tongue from the socket, while the parotid tube was bent so as to draw and *keep* away the cheek from the labial surface, all the time the Fisk ejectors were easily removing blood, saliva, and mucus, as quickly as they appeared. The subsequent treatment was thus made very easy. One astringent plug was sufficient, and the patient was able without inconvenience to sit for

fully half an hour in the chair with the tubes in his mouth. The reason for removing them was that the *extreme dryness of the mouth* had caused a tickling cough.

I very rarely have complaints as to the irksomeness of this system, and certainly never from those who have had any experience in enduring the previous modes of dealing with the saliva difficulty. The wet mouths of delicate and irritable children, in whose cases rubber dam is not to be thought of, offer little or no difficulty, and in a recent unusually well marked instance I observed that the strong spring of the parotid tube was not objected to. In this case the six-year old molar on each side was stopped.

I wish to remark before concluding that in the preparation of the tubes there is no difficulty whatever in soldering the German silver to the tin tube. If an imperfection exists at that or any part it is due to great carelessness of the artificer. Rash bending will split the German silver tube, but such an accident need not happen.

Edinburgh.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM JANUARY 1ST TO JANUARY 31ST, 1879.

Extractions	{ Children under 14	344
	{ Adults	557
Under Nitrous Oxide		235
Gold Stoppings		67
White Foil ditto		32
Plastic ditto		399
Irregularities of the Teeth treated mechanically		35
Miscellaneous Cases		210
Advice Cases		97

Total..... 1976

LAWRENCE READ,

Dental House-Surgeon.

British Journal of Dental Science.

LONDON, MARCH, 1879.

THE announcement that was published in our last February issue must have taken the whole Dental world with joyful surprise. According to it the proposal of Mr. Oakley Coles made in the 'Monthly Review' for March, 1875, is at last to be adopted. A British Dental Association is to be formed and inaugurated by John Tomes, Esq., F.R.S., who has hitherto so earnestly deprecated the consideration of the Dental branch of the healing art as a separate profession, and insisted so strongly upon its being but a branch of the great body medical.

As long as he presides over the conduct of affairs we have no doubt this idea will be steadily carried out. *Mais après !* It will require the utmost caution and circumspection on the part of the Committee who are about to frame the rules of this new British Dental Association to prevent it from becoming the nucleus of a body wholly separated from the medical profession. Without excessive caution the weary toil of years will perhaps be thrown away, and the Dental branch of the medical profession will sink to the level of the Veterinary College or the Pharmaceutical Society, excellent and valuable bodies certainly, but no more allied to the medical profession than the Incorporated Law Society. Our sentiments upon the subject have been thoroughly expressed in our leading article for July, 1878, when we said—

"We are far from advocating a continuance of the existence of the Dental Reform Committee as now constituted. The Act once passed let that Committee be formally and honorably dissolved; but before breaking up it might fitly occupy some portion of its remaining time in considering the advisability and method of establishing a successor, for which we would suggest the title of 'Dental Act Enforcement Committee' or 'Dental Registration Board.' We confess to a strong predilection for the word 'Committee' as not indicating an institution of too permanent a character. Since our first suggestion for the formation of a Dental Reform Committee, which has had such a splendid practica

result, we have steadfastly set our face against all endeavours to call it or form it into a Dental Reform Association satisfied that even in so mild a name there lurked a danger of that ultimate separation from our medical brethren which it has ever been our care to avoid, but which not so long ago seemed to be looming in the distance through the verbose indiscretion of a few otherwise well-meaning men. But a Committee such as we have indicated would be of a purely temporary nature. The very necessity for its existence would cease after the practical working of the Act for a few years. The nature of the duties of a 'Dental Act Enforcement Committee' are so obvious that we need hardly now detail them, but we do think that the Dental Reform Committee should lose no time in taking the matter seriously into consideration."

From the principles then laid down we do not now swerve. Nevertheless, if this British Dental Association is finally established, we shall loyally support it as long as it is confined to watching over the general interests of the profession, especially with reference to carrying out the provisions and spirit of the Dentists Act throughout the kingdom. At the same time we are bound to say that we view this most momentous step with serious misgivings as to the result. Already signs are in the horizon that we may yet be cast off by the Medical Council, and there are not wanting those who will strive to draw the educational strings so tight on the one hand as to excite the resistance of certain men on the other, who have never lost their hankering after a separate Collège of Dentists, for which they may find a ready basis in this new British Dental Association when time has removed from its ranks those elder men who are now founding it with a totally different purpose in view.

FROM ONE EXTREME TO THE OTHER.

"THE DENTAL LICENCE OF THE IRISH COLLEGE OF SURGEONS. —At a recent meeting of the Council of this College, a memorial from some of its fellows and licentiates practising Dentistry, praying that the new licence in Dental surgery should in future only be granted to licentiates in surgery of the College, came under notice. After an animated and able discussion, a resolution in accordance with the prayer of the memorial was adopted by the casting vote of the president—six members voting for and six against the motion. Owing, however, to an informality in bringing the matter before the Council, the question will have to be discussed afresh; but we trust with a similar result."—*Brit. Med. Journ.*

Literary Notices and Selections.

MR. S. HAMILTON CARTWRIGHT AND THE 'BRITISH MEDICAL JOURNAL.'

THE following extraordinary statement having appeared in the 'British Medical Journal' for February 22nd, 1879, we promptly received the two notes from Mr. S. Hamilton Cartwright which we have appended.

THE NEW PROGRAMME IN DENTAL SURGERY.

A correspondent writes: The resignation of Mr. Hamilton Cartwright, as Lecturer on Dental Surgery at the London Dental Hospital, is only the first step in a series of movements about to be inaugurated by the Association of Surgeons practising Dental surgery. The members of this Society are pledged to raise the social and professional status of the general body of Dentists, and with this object in view, we believe that they propose establishing a dental hospital and school, or taking an active part in the control of some school already existing; whilst at the same time, they promote the formation of a British Dental Association, having a basis similar to that of the British Medical Association. By this means they believe they may be able to guide the popular currents that it is clearly impossible to stem, and so direct the future of Dental ethics and education, that they may prove themselves the centre, not of conservative contact, but intelligent enterprise and reaction. Such a plan has much to commend itself to general professional opinion. The great majority of registered Dentists are without any leaders, and the Odontological Society has clearly declared itself (either for good or evil) to be a purely scientific body; it therefore remains for the Association of Surgeons practising Dental surgery, to become the political and ethical leaders of the Dental profession. They possess amongst their number names that will always act as a charm to the majority, and their duty clearly coincided with the programme which we have been enabled to lay before the general body of the medical profession.—*Brit. Med. Journal*, February 22nd, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—May I request you to oblige me by inserting the following letter, written by me in reply to an ANONYMOUS statement which appeared in the 'British Medical Journal' of last week.

Yours obediently,

S. HAMILTON CARTWRIGHT.

32, Old Burlington Street;
February 26th, 1879.

To the Editor of the 'British Medical Journal.'

SIR,—Permit me to express my surprise at the unjustifiable use of my name in connection with, as I am compelled to assume, the wilful misstatements of an anonymous corre-

spondent contained in a letter quoted by you in last week's journal, which I cannot consider to be condoned by the otherwise friendly tone of the paragraph in question.

My reasons for resigning the Lectureship in Dental Surgery at the Hospital in Leicester Square were entirely personal and private, and had nothing whatever to do "with a series of movements about to be inaugurated by the Association of Surgeons practising Dental Surgery."

As a member of the Committee of that Society I can safely affirm that such a proposition as that of founding another "Dental Hospital and School," or of forming a "British Dental Association," has never even been broached.

The existing Dental Hospital has done good service to the profession, and a majority of its members are *fully qualified* medical men—reasons why another school would be unnecessary; whilst I should oppose the formation of a special association as being calculated to bring about that separation between special and general surgery which I have ever so strongly deprecated, as also to place undue power in the hands of an unsatisfactory and uneducated majority.

With the remarks concluding the paragraph I concur, for I am convinced that the Association of Surgeons practising Dental Surgery may by judicious and liberal measures do much to elevate the profession generally—a consummation especially to be desired at the present time, when the most uneducated empirics and Charlatans are being permitted to place their name on the Dental Register by the Medical Council, a body who, though bound to protect the interests of the whole medical profession, in this case seem to require no proofs of education, efficiency, or respectability. Instead of instituting, as Dr. Quain, Sir William Gull, and others have proposed, a high standard of their own to regulate the admission or rejection of candidates for registration, they accept the *ipsi dixit* of persons, the appearance of whose names upon the register is an insult to the whole medical profession and an injustice to those who, not being fully qualified, have worked hard for the licentiateship in Dental surgery, and now find their diploma ignored and their names placed in juxtaposition with such a profane and ignoble crowd.

Believe me, Sir,

Yours obediently,

S. HAMILTON CARTWRIGHT,

Professor of Dental Surgery, King's College.

Dental News and Critical Reports.

DENTAL REFORM COMMITTEE.

GENERAL MEETING, HELD SATURDAY, FEBRUARY 8, 1879, AT THE
DENTAL HOSPITAL OF LONDON, LEICESTER SQUARE.

JOHN TOMES, Esq., F.R.S., in the Chair.

MR. TURNER (the Secretary) read the minutes of last meeting, which were confirmed.

THE CHAIRMAN.—The meeting has been specially convened for the purpose of considering whether it would not be desirable at this stage of our proceedings—a stage at which this Committee has reached its end—that an Association of Dentists should be formed, which in future would be able to speak with authority on all questions relating to Dentistry, and whose special business would be to see that the provisions of the Dental Act are fully and faithfully carried out. If such a scheme is approved of, the steps necessary to carry it out can be considered either now or at an adjourned meeting.

At the request of the Chairman, Mr. Turner then read a resolution which had been passed by the Executive Committee:—"That it is desirable to form a representative board under the title of the British Dental Association, the object of which shall be to watch over the general interests of the profession, especially with reference to carrying out the provisions and spirit of the Dentists Act throughout the United Kingdom."

MR. RYMER said, as he proposed the resolution before the Executive Committee, he had pleasure in proposing it now before the general meeting. The Dentists Act having been so satisfactorily passed it was of course of the utmost interest, not only to the profession but to the public at large, that the provisions of the Act should be faithfully carried out, and to secure the faithful watching was absolutely necessary. The Dental Reform Committee, no doubt, were well acquainted with the subject, but, as the Chairman had hinted, their term of office was very limited and would before long expire unless renewed life was given to them. What he suggested was, that at a general meeting of the profession, to be called publicly, a resolution should be submitted to form an association such as that referred to in the resolution which had been just read. Such a resolution would have the utmost possible weight, and would have the best effect

in carrying out the original intentions of those who had interested themselves in the Dentists Act. He thought it was most important that at this meeting the present Council should be re-elected. That, of course, was for the meeting to determine, but he had no doubt that if the whole of the circumstances were placed before them in a clear manner, they would re-elect the Committee as a permanent body, who should watch over the interests of the profession. He did not feel it necessary to enlarge further upon this subject because the resolution proposed would speak for itself.

Mr. R. ROGERS (Cheltenham) seconded the resolution because he thoroughly believed in the desirability of forming such an association as that which was proposed.

The CHAIRMAN said every Act of Parliament when first passed required to be carried out with patience, energy, and liberality. If good laws were passed the public were interested in having those laws carried into effect, and not allowed to fall almost as dead letters. The only way by which the provisions of the Dental Act could be properly carried out was by an association. To leave it in the hands of private individuals was to place those individuals in a very disadvantageous position, but if it was placed in the hands of the Dental profession generally then their representatives would be listened to with authority. It would be the duty of the association to obtain details of cases as they arose from time to time, and the profession itself would be the most competent judges of what was necessary to be done.

Mr. R. ROGERS (Cheltenham) said he presumed the work of the association would be to prosecute persons who were contravening the provisions of the Act by doing what they had no right to do.

The CHAIRMAN said the business of the association would be to collect the facts of any case that private individuals might report to the Committee, and to satisfy themselves as to whether the statements made to them would or would not justify interference. The association could not interfere, but it would have the power of putting the law into operation through the Medical Council.

Mr. DENNANT (Brighton) supported the resolution very warmly, and as it was quite possible that in the near future such an association as was proposed might contemplate benevolent objects he said he thought it would be extremely desirable that the profession should have a benevolent fund managed by an executive committee, who would be thoroughly conversant with the interests of the profession throughout the country. He could not conceive of any committee more

competent for that purpose than the present executive committee. With regard to the subscribers to the Reform Fund he was quite sure they would not regard it as an act of discourtesy on the part of the executive committee if they were not summoned specially to consider the proposal which was now made. It would be undesirable to have more than one public meeting, but he hoped that at the meeting their friends would give them the benefit of their presence in large numbers.

The resolution was unanimously agreed to.

The CHAIRMAN expressed the hope that when the association was formed, not only would a benevolent fund be established, but that a law might be passed directing a meeting to be held once a year, either in London or in some other large centre, where the members of the association might come together and discuss professional matters, such meetings to be inaugurated by addresses describing the progress of Dental science throughout the previous year, and any other Dental matters which might be of interest to the profession.

Mr. R. ROGERS (Cheltenham) proposed "That a general meeting of the profession be convened by advertising in the Dental and Medical Journals, and in two or three of the daily papers, for the purpose of receiving a preliminary report of the Dental Reform Committee, and a proposal in favour of the formation of a permanent representative Dental Association."

Mr. HUET (Manchester) seconded the motion, which was unanimously agreed to.

Mr. IBBETSON suggested that legal opinion should be taken as to the steps that were necessary to give the public meeting the power that it was desirable it should possess.

After a short discussion it was decided to leave the matter to the honorary officers.

On the motion of Mr. UNDERWOOD, seconded by Mr. DENNANT, it was agreed "That the meeting be called at such time and place as in reference to the former resolution be deemed desirable by the President and Secretary."

The CHAIRMAN said Sir John Lubbock had authorised him to return his thanks for the testimonial that had been sent him, and had expressed himself very much gratified with it.

The TREASURER was then authorised to pay for the testimonial, which Mr. Parkinson said cost about eleven guineas.

The CHAIRMAN expressed a hope that every member of the Committee would give his careful and thorough atten-

tion to the subject of the public meeting, so that the resolutions to be proposed might be thoroughly matured before they were brought forward.

Mr. HUET said, as the Committee was constituted at present they had power to add to their numbers. It had been suggested to him on two or three occasions that, as Manchester was next in size to London and several members of the profession resided there, it would be desirable to have an additional Manchester representative on the Committee. The gentleman proposed was Mr. Champion. There was no doubt that he was regarded as a very great light in the profession in Manchester, and therefore he begged most respectfully to submit that Mr. Champion's name be added to the Committee.

Mr. TURNER said the difficulty was that if one new name was added scores of others might be proposed.

Mr. HUET said if Mr. Champion joined the Committee he hoped that he would be placed on the Executive, and he was quite ready himself to give place to that gentleman.

Mr. TURNER said it was very probable that power to add to their numbers would be given by the association that it was proposed to form, and then Mr. Champion's name might be added.

Mr. WOODHOUSE said that he would take care at the right time to communicate to Mr. Champion what had taken place.

On the proposal of Mr. R. ROGERS, of Cheltenham, a vote of thanks to the Chairman was cordially agreed to, for the manner in which he had conducted the meeting.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, FEBRUARY 3RD, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

BEFORE the business of the evening commenced the PRESIDENT announced that Mr. W. H. Woodhouse, who had been elected a member of the Council at the last meeting, had resigned his seat in order that the Society might continue to have the benefit in the Council of the experience and sound judgment of Mr. Alfred Woodhouse, who had been the senior vice-president last year.

The following gentlemen were then *separately* balloted for, and all of them unanimously elected members of the

Society :—Messrs. W. H. Margetson, of Dewsbury ; G. H. Crowther, of Wakefield ; Joseph J. H. Sanders, of Bangor ; Thos. Balcomb, of St. Helier's, Jersey ; Wilson Hogue, of Bournemouth ; Herbert Woodruff, of Leamington ; A. S. Underwood, of Bedford Square, London ; E. P. May, of Euston Square ; and Ewen Tod, of Old Steyne, Brighton. Mr. Stratton Coles, of Plymouth, was proposed for election at the next meeting.

The PRESIDENT announced that Mr. Tod had presented to the library a copy of Flower's 'Diagrams of the Nerves of the Human Body.'

Mr. HENRY MOON showed models of the mouth of a girl, thirteen years of age, who had curiously pointed temporary teeth. Some of those present would remember that about two years ago he had brought before the Society some cases of children with pointed teeth, differing both in shape and appearance from the peg-shaped teeth characteristic of inherited syphilis. Since then he had met with two or three cases resembling these, but in none was the deformity so marked. The case he had brought forward that evening had been sent to him by Mr. Jonathan Hutchinson. The temporary incisors and canines were very conical and sharp pointed. The child's mother stated that the only tooth which had yet been changed was the first lower temporary molar ; the eruption of the permanent incisors had, therefore, been greatly retarded. With regard to this retarded eruption of the permanent front teeth, he had seen several cases in which it had been preceded by edge-bites of the temporary teeth, and he should be glad to know whether other members had noticed any connection between these two irregularities. Might it not be that the straight downward pressure of a temporary tooth into its socket tended to retard the eruptive process in the case of its successor ?

Mr. Moon also showed models of the upper and lower jaws of a youth aged eighteen. The upper lateral incisors and the bicuspid in both jaws were absent, though all the wisdom teeth were erupted. The patient's mother had the same teeth absent from the upper jaw, but in her case no wisdom teeth had appeared.

Mr. UNDERWOOD related the following remarkable instance of retarded development of a tooth. A young lady, who was just about to be married, was brought to him by her mother on account of the absence of her left upper canine. The mother stated that the tooth had been extracted by mistake. At her request Mr. Underwood fitted an artificial canine, and this at the time gave great satisfaction. But about a year afterwards the young lady returned, saying that the tooth

did not fit properly, and in removing it the point of the permanent canine was found just piercing the gum. In this case the eruption of the tooth seemed to have been retarded by *absence* of pressure, and the pressure of the artificial tooth appeared to have stimulated its growth; it was constantly observed that the pressure of a plate accelerated the eruption of the permanent teeth. He could not, therefore, agree with Mr. Moon in thinking that pressure retarded development.

Mr. HUTCHINSON asked whether in the case of the little girl any of the other dermal appendages were affected?

Mr. MOON answered that the mother informed him that when the child was born she had no nails on the fingers or toes and no hair on the scalp, but had an abundance of downy hair over the shoulders. In the cases he had previously reported there was imperfect vision, but this child's sight was good though the hair both of the head and eyebrows was still stunted. With regard to Mr. Underwood's remarks he thought that the case he had brought forward did not in any way disprove his theory. In the one case there was diffused pressure on the gum, the part to be absorbed, and this pressure, no doubt, helped to promote absorption, and thus hastened the eruption of a tooth; in the other case there was increased downward pressure on the tooth itself, which was equivalent to increased use, and increased use of a part was generally accompanied by increased vitality and prolonged duration.

Mr. COLEMAN then read a communication from Mr. Henry Rogers giving a description of the detachable springs which he had invented and used for many years in his practice. Mr. Coleman also handed round some specimens, in order that they might be compared with those recently brought forward by Mr. Hempel, a specimen of which had been shown at the previous meeting.* Mr. Coleman added that some years ago he had tried to induce Messrs. Ash to keep these detachable springs regularly in stock, but they had not thought it worth their while to do so; he hoped that now attention had again been called to their advantages it would be possible to procure them with less trouble and delay than had hitherto been the case.

Mr. COLEMAN next showed a new face-piece for gas and ether inhalation, which had been made by Messrs. Barff. It was composed solely of india rubber, and would be found light, durable, and efficient. He also handed round a model showing the disadvantage of the too early removal of teeth for the purpose of relieving overcrowding. The two upper

* Mr. Rogers' account of his springs appeared in our last issue, p. 63.

first bicuspid had been removed with this object before the canines had fully descended; the space thus gained was almost immediately lost, and the teeth in front were as crowded as before. Mr. Coleman had fitted a regulation plate, and was pressing out the lateral incisors. The patient was now thirteen years of age.

Mr. CHARLES S. TOMES exhibited a model showing the disastrous results which might be caused by the injudicious application of regulation plates. The patient was a little girl aged ten and a half, and she had been under continuous treatment for two years. She had worn a vulcanite plate capping all the upper teeth except the incisors, and actually held up by wires clasping the permanent lateral incisors, the object being to correct an underhung bite by pressing forward these teeth. The result of the treatment was as follows:—the lower incisors bit upon the backs of the upper incisors near to their tips. The latter were loose and very tender, and when the plate was out of the mouth, had to sustain the full force of the bite, as the six-year-old molars and the temporary teeth had been so depressed by the plate, that they were half buried in the gum and did not meet their antagonists by about half an inch. The first bicuspid was just coming through. He should have felt disposed to suspend all treatment for a time, but that it was evident that unless something could be done to relieve the violent concussion between the upper and lower incisors the former would soon be lost. The upper centrals were so tender and inflamed that they could not be touched at present. He had therefore fitted a plate bearing only on the remaining temporary teeth, with the view of allowing the bicuspid and the six-year-old molars to grow up to their normal level, and so to take the force of the bite off the incisors, and was trying to draw back the lower incisors. The case was a troublesome and perplexing one, and he should be glad if any member could suggest a better mode of treatment.

Mr. COLEMAN said he had seen many cases in which harm had been done by commencing the treatment too early. The youth from whom the model was taken which he had exhibited that evening was an instance in point. He thought that, under the conditions which had been stated, Mr. Tomes' plan of treatment was excellent. The only suggestion he could make was that the patient should wear a close-fitting cap with a strip of elastic webbing passing round the chin, and pressing back the jaw. The surprising effects which could be produced by a very moderate amount of force continuously applied were well seen in the defor-

mities which resulted from the contracting cicatrices of burns, and he thought our knowledge of this fact might be turned to good account in such cases as the present.

Mr. OAKLEY COLES thought that the attempt to press forward the upper incisors, as in this case, instead of retracting the lower, was generally a mistake, and he agreed with Mr. Coleman that it was better to act on the lower jaw as a whole than to act on the teeth. This plan of treatment could not be begun too early; in fact, the younger the patient the easier it was to alter the shape of the jaw. Besides, when individual teeth were moved, it was very difficult to keep them in proper relation with their antagonists, but by slowly pressing back all the teeth together they preserved their relative positions more easily.

Mr. HUTCHINSON thought that cases of this sort ought to be left until the bicuspid were completely erupted and the twelve-year-old molars had made their appearance; this was at all events the most favorable time for treatment, for at an earlier age than this it was not advisable to extract temporary teeth, and thus you lost the advantage of being able to supplement the expansion treatment by extraction.

Mr. CHAS. WEST remarked that the question of treating the upper or lower jaw would depend much upon the contour of the patient's face. In this case he thought he should have fitted a plate capping the lower incisors.

Mr. MOON said he considered that Mr. Tomes' proposed plan of treatment was clearly the right one under the circumstances; but why, in the first instance, was not a suction plate fitted and the arch expanded by means of pegs without capping the teeth. He saw no objection to the treatment of an underhung bite before the loss of the temporary teeth if proper care was taken. He had successfully treated one child eight years of age by means of a regulation plate, and in the case of a child aged four years he had gained his object by the help of a metal plate covered with soft rubber and having a handle attached. The child was taught to hold this diagonally between the teeth and to bite upon it. In this family the child's father and grandfather were both underhung.

Mr. WALKER said he had treated a child four years of age by capping the lower teeth. He was now seven years old, and his face was much improved. His father, two sisters, and a brother were all underhung. In another case now under his care the patient's father, brother, and sister were affected in the same way.

Mr. HUTCHINSON said he had treated a child two and a half years old by means of a regulation plate. Another

child, aged fifteen months, he had cured of an underhung bite by simply teaching it to suck its thumb.

Dr. FIELD said it was difficult to give an opinion as to the best mode of treating this case without seeing the patient, but, judging only from the model, he should be inclined to advise that the remaining temporary molar should be extracted on each side.

Mr. HENRY said he should have been disposed to discontinue all treatment until the bicuspid were fully erupted, but if this was not possible he thought he should fit a vulcanite plate, capping the upper incisors.

Mr. CHAS. S. TOMES said he thought some of the speakers had not fully understood all the difficulties he had attempted to point out. Immediate treatment was absolutely necessary to save the upper incisors; they would certainly be lost if they continued to bite against the lower as at present. Then it was true that the face would be improved by pushing out the upper front teeth, but they were so loose and tender that it was impossible to attempt this. He was therefore obliged to content himself with drawing back the lower incisors, and at the same time was doing all he could to get the upper into a quieter state.

The PRESIDENT then delivered the following Inaugural Address:

GENTLEMEN,—By your kind suffrages, and in fulfilment of a recent alteration in the mode of election, by which Past-Presidents alternate with those elected for the first time, I find myself again, after the lapse of fifteen years, in the honorable position of President of the Odontological Society. By this innovation, which was proposed by Mr. Vasey (in an admirable spirit of self-abnegation, for by it his own presidentship was postponed), and warmly advocated by my immediate predecessor in this chair, in the same spirit of self-sacrifice, it was thought that the identity, the traditions, and in some degree the prestige of the Society would best be preserved. To what extent these objects have been or are likely to be realised we are happily not now called upon to determine, but I may say, that though I had begun to regard myself as retiring from all prominent and public engagements, yet, having yielded to the solicitation of some old and valued friends to accept the office, it will be my aim, relying upon your kind co-operation, so to discharge the duties as to promote most effectually the best interests of the Society. I trust it will not be inferred from this that the honour of representing this Society was not duly appreciated, or that it was simply a case of preferring ease and avoidance of work. These considerations would have had but little

weight if I had not felt a distrust of my own fitness for the office, and if I had not known that without this intervention the mantle would have fallen on shoulders well fitted to wear it with dignity. From old association no less than from present achievement this Society is very dear to me. I assisted at its birth, and may regard myself as its god-father, having proposed the name which, after many objections, as that it was uncouth, pedantic, too long, difficult to pronounce, &c., was at length unanimously adopted. Nor has that attachment ever wavered or suffered diminution, either by the seductions of novel associations or by those inevitable temporary suspensions of harmonious relations which are incident to all human institutions. I should be more or less than human if I could resume this position after the lapse of fifteen years without some tinge of sadness mingling with feelings of satisfaction called forth by such a retrospect. Of how many who were endeared to us from earnest collaboration in the formation of this Society, and who, by their constant and genial presence, lent a charm to these gatherings, are we doomed to say that their places know them no more! How many whose names are honorably inscribed on yonder tablet, and whom we had come almost to regard as necessary to the very existence of the Society, are now gone from our midst! But, having paid this passing tribute to their memory, we will indulge in no vain regrets over the irrevocable past, but rather rejoice that their places are so well filled by their successors and that the Society lives in all its pristine life and vigour.

“For men may come and men may go,
But it goes on for ever.”

There would seem to have been in all ages an ineradicable tendency in human nature unduly to estimate the known and the past over the untried and the present, for amongst the words of wisdom of a very early period is found a caution on this subject, “Say not thou that the former times were better than these, for in that thou sayest not wisely.” I think we might seem neither very wise nor very candid if we could refrain from giving a cordial greeting to those who are so worthily filling or preparing to fill our places; who, profiting by educational advantages which did not exist for their predecessors, devote their fresh intellectual energies, as yet undimmed and unwearied by the monotonous routine and the exhausting drudgery of an exacting profession, to original scientific research and to the thorough investigation of all appliances, preparations, or modes of treatment, likely to be of advantage to the profession. While its ranks continue to be recruited with men of this stamp there should

be no misgiving as to the future of the Society, but on the contrary every ground for assurance that it will long continue to represent the profession of Dental Surgery, to guard its interests, to promote and encourage scientific inquiry, and to be a rallying-point of social re-union. So far, then, from dwelling on the past with despairing or regretful interest, we will look forward with eager hopefulness to a career of increasing lustre and achievement. Many and great events have marked the period of which we have been speaking, a period rich in materials for history and full of grave results as affecting the political or social well-being of mankind, in some cases realising aspirations after unity, in others removing ancient landmarks, and leading to a rearrangement of geographical boundaries. It has witnessed the welding together of the fair and classic lands of the sunny south into one united Italy; and the rise and consolidation of the great German Empire, that fatherland so long the dream of the poet and the aspiration alike of the statesman, soldier, priest, and peasant; and it has also been witness to that stupendous duel between two powerful nations foremost in the rank of culture and civilisation, the one pre-eminent in all that lends grace and charm to existence, and the other renowned for its learning and intellectual progress, and occupying a high place among the philosophers, the poets, and the scientists of the age. Let it not be supposed that because we are specialists we can be unmoved by the events of the great world, or that the discoveries of science, in which this age is so peculiarly rich, possess no interest for us unless applicable to our own kind of work. Rather let us endeavour to keep abreast of the times in this respect, so as not to incur the reproach of being men of one idea, and with a limited range of thought. Nevertheless, citizens of the world though we may be, our chief interest must always centre round our own speciality, and this also has partaken of the general movement; we also have our history. This is not the fitting occasion for entering into the politics of the profession, nor, even if I possessed the requisite ability and knowledge of the subject, has the time arrived at which a sound judgment could be formed of the results of what has been recently accomplished in the way of Dental reform and legislation. That at length, however, and after much labour and thought, registration and a legal sanction have been obtained for our profession must be a matter for unfeigned congratulation on the part of all who have its true interests at heart. This, which had only been too long delayed, may be regarded as the crowning of the edifice, the corner-stone of which was laid some twenty years since. Whether this

might not have been obtained without a separate and special Act of Parliament, and whether its provisions might not have been restricted to the recognition of those only who practised Dentistry pure and simple, are questions which I for one am quite content to leave unsolved now that the great fact of registration is assured. And I do this the more readily because it was my misfortune to be unable to support the measure as it was originally drawn, placing in the same category and subjecting to the same penalties the educated Member of the Royal College of Surgeons and the mercenary and uninstructed empiric; and I gladly take this opportunity of stating that it was this, and this alone, which prevented myself and others from the hearty co-operation which it would otherwise have had. This obstacle, which had too long blocked the way, was at length removed, and then your plenipotentiaries returned in triumph, bringing Peace with Honour. For thus they obtained such protection and such powers as must in time purge Dentistry of much at least that was hideous and humiliating to men of culture and sensibility; and this without dissociating it from the great surgical body, so that the question which had begun to be asked, Is Dentistry a profession or a trade? receives an irrefragable answer in the fact of such association; for if it be a profession, it can only be as a part of surgery; detach it from that august body and it has to create a status for itself which may be challenged; associated with it its position is guaranteed, and it receives its passport to public estimation. Another and not unimportant event, and one the value of which has scarcely received full recognition, is the removal of our representative institutions, the Dental Hospital School and Odontological Society, to the building in which we are now assembled. From the commencement of the organisation of the profession these three institutions have been grouped together, and like three strands of a cord they acquire strength by association, an arrangement which it is to be hoped may long continue to their mutual advantage. In selecting our first home in Soho Square, we were more attracted, probably, by its suitability for the purposes of the Society than for those of a hospital. There was, it must be admitted, a handsomer and more symmetrical meeting room than we now possess, but beyond this single recommendation it was extremely ill-adapted for our various uses. Hid away in an obscure corner where, from the confined space and the height of the surrounding buildings it was impossible to get the requisite amount of light or air, the work of the Hospital was carried on under very unfavorable conditions. But when the growing reputation of the School

brought an annually-increasing number of pupils, it became evident that if it was to maintain its ground as a representative institution it must be removed to a larger sphere. As there were no available funds for such an enterprise, which involved not only the acquisition of new premises, but the disposal of those then in occupation, it became a rather serious responsibility. By the liberal co-operation, however, of many old and tried friends of the profession, the transference to the present building, affording ample space, light, and air, was effected without interrupting for a single day the work of the Hospital, and not only without incurring debt, but with a not inconsiderable addition to its small amount of funded property. Only those who can call to mind the close, imperfectly-lighted room, with its half-dozen chairs of various and almost equally unsatisfactory construction, and the tedious waiting for opportunities of practice in the former house, can adequately appreciate the change. It may be stated, however, that the income of the Hospital rose from £965 in 1873 to £1455 in 1874, the year of removal; and the number of cases treated has increased from 21,904 in 1873 to 29,679 in 1877. At the same time the efficiency of the School was augmented by some thirty well-constructed chairs placed under favorable conditions of light, by which the tedium of waiting was obviated both to patient and pupil. It is not too much to say that such a development of both Hospital and School would have been impossible in the former building. It has been admitted that the superiority of the present building is chiefly apparent as regards the work of the Hospital and School, though the improved light and space for the Museum and Library amply compensate for any shortcomings in the Meeting-room of the Society. With all these advantages which, as a whole, are without a rival in any part of the world, it is difficult to discover a valid and satisfactory reason for the formation of another, I will not say a rival, Society. Of course it is competent to any number of men engaged in similar pursuits or who have been educated at the same school to associate themselves together, but when the machinery and organisation of a Society, with its 'Transactions,' its well-filled Library, and a Museum, such as can only be the result of years of discriminating care and labour, already exists, such a proceeding would seem to be rather a matter of regret than of congratulation. The defection of old friends must always be deplored, and may be a source of weakness; nevertheless, conscious of our own strength and numbers, and deprecating any idea of rivalry, we frankly acknowledge that in all that they have done as a Society

they have upheld the profession and drawn closer the bonds that unite it to the medical world.

So much for matters of moment of recent occurrence which claim a place in our own domestic annals. And having inflicted my tediousness upon you to this extent, I will not even glance at the discoveries and improvements which may have been introduced during the same period. It is true that these have been from time to time brought under the notice of the Society, but I cannot help thinking that in competent hands a *résumé* on this subject would well occupy one or more evenings during the present session. Shall I be thought too sanguine if I express the hope of soon being enabled to make an announcement to this effect? And now, in conclusion, I am tempted to throw out some loose speculative thoughts in reference to the future. The present time is one of change and of great intellectual energy, and a huge wave of discovery has set in, especially in reference to electricity, which while it may cause great changes in the aspect of modern social life, can scarcely be expected to be wholly without influence on our own speciality. It can hardly be doubted that it will become pretty general at no distant time for the practitioner in our department to have the means at hand of directing a beam of electric light into the oral cavity. But it has other potentialities. Is it forbidden to hope that the nerves of sensation may be so acted upon by a continuous current with or without local narcotisation, as to be for the time deprived of sensibility without permanent damage? May we not look for the good time when the work of the drill and of the excavator in the preparation of the cavity, alway irksome, but amounting to torture in persons of delicate and sensitive organisation, may come to be regarded with indifference, or will such a power be the outcome of the remarkable experiments of Professor Charcot? The control which he exercises over the nervous system of his patients, momentarily suspending or re-establishing sensation, now over the whole body, and now over one-half, and again reversing these proceedings, would seem to show that there is yet much to be made out in reference to Anæsthesia. Interesting, however, as these experiments are in a pathological, or even in a physiological point of view, their practical value is impaired by the fact of their being selected cases, in which the nervous system is attuned to a high degree of susceptibility, not unmixed, as has been shown by Dr. Carpenter, with some amount of expectancy of the results sought to be produced. But may we not indulge the hope, both for our own sakes as well as for those of our patients, that we are on the eve of further discoveries in the way of local anæsthesia? Should it be thought in-

credible that this subtle force may come to the aid of the physician, and in the most literal sense throw a new light on disease? that the electric light may ultimately be made available for rendering the living body or parts of it luminous, so that morbid changes in important organs may be detected at a very early stage, and with the certainty of ocular demonstration? so that diagnosis shall be no longer a matter of conjecture or inference from symptoms, supplemented by the report of test tubes, as to the condition of secretions, or by stethoscopic audition, but of ascertained fact? Is there anything more hard of belief in such an application of electricity than that the vibrations caused by the peculiar pitch and tone of our own voice should be transmitted through miles of slender wire to be perfectly reproduced by means of vibrations identical in character? But to return to what concerns more immediately our own speciality. Will the time ever come when our proceedings will no longer be impeded by the deluge of saliva which is the natural concomitant of work in the mouth? When instead of the ingenious hydraulic arrangements for draining off the saliva, now in vogue, we shall be in possession of means for temporarily arresting the function of the gland and so stopping its secretion? And, lastly, when we have eliminated those twin torments of the Dental art, sensibility of structure, and the invading moisture, shall we arrive at a material unobjectionable in colour, having the plastic, the preservative, and the non-conducting properties, as to heat and cold, of gutta percha, combined with such hardness as to make it resist the effects of attrition? The quest for such a material which may be more easily and quickly applied, and which shall possess greater homology with the tooth substance, is quite compatible with full appreciation of the present perfection of the art of using gold for this purpose, characterised by the high finish and technical skill which it has attained in the hands of our "kin beyond sea" as well as by many of our own countrymen, and even under this very roof. In possession of such a material how immeasurably would our usefulness be extended by economy of time, no less than by conservation of force. Is it Utopian to entertain such an expectation, which would abolish much that is irksome and much that is distasteful both to the operator and to his patient, and may it not be that the dentist of the future will recall with wonder the time when four or five hours were expended in welding and condensing a mass of gold into one tooth? Those who can remember the laborious process of working the tusk of the hippopotamus as a base for artificial arrangements before the introduction of vulcanite, will be at

no loss to detect in this a parallel case in respect to waste of energy.

Gentlemen, I thank you for the honour you have done me in again electing me your President, as well as for the patience with which you have listened to these perhaps profitless lucubrations.

The meeting then adjourned.

ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, HELD 13TH FEBRUARY, 1879.

DAVID HEPBURN, Esq., L.D.S., President, in the Chair.

THE minutes of the previous meeting having been read and approved,

On the motion of the President, seconded by Mr. Wilson, Mr. J. K. Chisholm, sen., L.D.S., was unanimously elected an honorary member.

Mr. P. Crombie, L.D.S. Ed., was proposed for membership, to be balloted for at the next meeting.

Mr. BROWNLIE showed a number of excavators which having become worn out, were remade by an assistant. They were brought forward to show, what could be done by a method of tempering, which was not described in books, but which afforded most excellent results. The instrument having been properly shaped, the cutting edge and a very little more of the point of the excavator was brought up to a very bright red heat, and then suddenly cooled in water; in this way the point of the instrument was chilled, affording an exceedingly keen cutting edge, without hardening the whole of the point. By a little experience in this mode of tempering, instruments can be produced rapidly, and of quite as good a quality as those provided for us at the depôts. During the past few months a large number of excavators made in this way (and of which those on the table form part) had been used daily, while not more than three or four had broken. Various tests having been applied to the instruments submitted, they were found to possess a keen cutting edge, without brittleness.

The remainder of the meeting (a conversational one) was filled up by remarks on Mr. Brownlie's communication, the excision of teeth and roots, and a variety of other professional matters.

The PRESIDENT then said that their next meeting being the annual one would be on the 13th March, when they were promised a paper by Dr. Williamson.

LICENTIATES IN DENTAL SURGERY AND THE ODONTO-CHIRURGICAL SOCIETY.

THE Anniversary Dinner of the Licentiates in Dental Surgery and Odonto-Chirurgical Society will take place on Thursday, the 13th March, in the Balmoral Hotel, Princes Street, Edinburgh. Dinner on table at half-past six o'clock. Tickets 21s. each. W. Campbell Esq., L.D.S., in the Chair; D. Hepburn, Esq., L.D.S., Croupier; Andrew Wilson, Hon. Sec.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON, 40, LEICESTER SQUARE.

ORDINARY MEETING, 9TH DECEMBER, 1878.

S. J. HUTCHINSON, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding meeting were read and confirmed.

Messrs. Bradshaw and Stuck were balloted for and duly elected members of the Society.

Messrs. Robinson and Wonfor were proposed for election.

Mr. MAGOR brought before the notice of the Society a case of a central incisor embedded in the substance of the upper lip, which had been under his treatment.

Mr. MARCUS DAVIS showed a specimen of alveolar abscess, the sac adhering to the side of the fang.

Mr. DAISH showed an upper permanent molar, the three roots of which had been extensively absorbed.

The PRESIDENT then called on Mr. DAISH for his paper on "Dental Microscopy."

Mr. PRESIDENT AND GENTLEMEN,—When asked to read a paper before you this evening, I thought it would be a good opportunity to advocate a study, which, although well worthy of our attention, has for so long a time been left out in the cold.

The microscope is of great importance in the successful prosecution of our studies; indeed, I hardly see how any of us can well afford to be ignorant of its use; yet, so far as my own observation goes, it is positively neglected by most of us, so that its use is strange, instead of being as familiar as that of our mirrors and excavators. Having, therefore, had, during the past year or two, good opportunities of gaining a practical acquaintance with the use of the microscope, and feeling

strongly the need of earnestly advocating its constant use by every member of our Society, I have ventured to lay before you some of my experience and that of others on the subject, knowing well that that large proportion of us who have been unable to microscopise before joining the hospital will have but little time amid the constant whirl of study here to acquire that practical acquaintance with the best methods of manipulation, which is usually obtained by the study of such works as those of Beale, Carpenter, Hogg, and a host of others, the perusal of which would occupy time needed for other and more necessary reading. With a view to encouraging microscopy amongst us, I have thrown together such practical hints on the manipulation of the microscope, and the preparation of specimens as I have gleaned from experience, and some slight acquaintance with the literature of microscopical science.

We are all doubtless familiar with the various forms of microscopes made and sold by opticians in this and other countries, so that a detailed account of the form and construction of different ones would be quite out of place here. But while the diversity of form and detail is sufficiently great to allow of considerable play to the fancy or state of the student, there are certain requisities which must be present in any instrument that is to give satisfaction, and I may, perhaps, be permitted to sketch out what I personally look for in choosing a microscope, and in making these statements I have drawn largely on the experience of such writers as Carpenter, Hogg, and various contributors to scientific journals, besides what my own and my friends' experience has taught me.

With regard to the stand, it should be of medium size, well made, and in every respect solid and steady; most certainly it is advisable to have it made to incline, as a constantly upright position is fatiguing to the neck, is ill-adapted to the use of any appliance for drawing, and it is certain that observations can be made with more ease and accuracy when the microscope is inclined at a convenient angle. Dr. Carpenter says, that "it is now generally acknowledged that of all positions the upright or vertical is the very worst, except in cases which necessitate its use." A rack and pinion coarse adjustment is very desirable though not essential, and it, of course, adds to the expense of the instrument. A fine adjustment is indispensable. For practical work a mechanical stage is quite unnecessary, indeed, it would be found rather a bother, for after a little experience the fingers can be used to move the object with sufficient delicacy for any power; on the other hand, a rotating stage

is very advantageous, owing to the way in which its use varies the direction of the light in falling on the object without the trouble of shifting the mirror, and, besides, it gives effects of illumination unattainable with the mirror alone. Whatever form of stand you adopt be sure it is a good, well-made one, constructed on correct principles; a little extra expense at first is made up by the freedom from subsequent annoyance from the wear and tear which always tell on a bad stand in the course of a few years.

A few words about the binocular microscope which is now becoming so popular. The advantages it possesses in comparison with the monocular are:—The two eyes are used as in natural vision, the penetrating power or focal depth of the objectives is greatly increased, thus enabling one to see the relations of parts of a solid or uneven object more easily and clearly. In consequence of these facts the use of a binocular microscope is much less fatiguing than that of a monocular; this, Dr. Carpenter thinks, is partly owing to the diminished mental, as well as visual labour. He says, “unless there is a feeling of discomfort in the eye itself the sense of fatigue is rather *mental* than *visual*; it proceeds from the constructive efforts which the observer has to make who aims at realising the solid form of the object he is examining by an interpretation based on the flat picture of it presented by his vision, aided only by the use of the focal adjustment which enables him to determine what are its near, and what its remote parts, and to form an estimate of their difference of distance. Now, a great part of this constructive effort is saved by the use of the binocular which at once brings before the mind's eye the solid image of the object, and thus gives to the observer a conception of its form usually more complete and accurate than he could derive from any amount of study of a monocular picture.” A single look at the similar specimens placed under the monocular and binocular instruments on the table, will, I think, confirm the truth of these remarks.

It would be superfluous to bring forward facts and arguments to establish that which, I presume, no one here present would for a moment question—the invaluable aid afforded by the microscope in the prosecution of scientific research, and I will not trouble you with them. In the science of anatomy and physiology, so intimately connected with our own special work, and forming part of our course of study, the microscope has done good service. I have only to refer to the comparatively modern branch science—histology—as an illustration. Where would be our intimate knowledge of the minute structure of the human frame, of

the functions of many of its parts, &c., but for the patient, intelligent use of the microscope by a whole army of talented and persevering observers?

Turning to our own speciality, we have abundant evidence in the 'Transactions' of various societies, and in the pages of works on histology, Dental anatomy, surgery, &c., of the importance of the microscope. Apparently, the earliest investigator of the dental tissues was the renowned Leeuwenhoek, who, in the latter part of the seventeenth century, appears to have formed a pretty correct idea of the structure of dentine, though I believe he does not mention the other dental tissues. He says, "The whole tooth is made up of very small straight, transparent pipes; 600 or 700 of these pipes put together, I judge, exceed not the thickness of one hair of a man's beard." After this time no mention is made of Dental histology for many years. In the work of Blake 'On the Teeth,' published in 1801, no mention whatever is made of the microscopical structure of the teeth; and in those of Fox, 1814, Parmley, 1818, and Bell, 1835, the teeth are repeatedly affirmed to be composed of bone, similar to that of the skeleton, but denser and of closer consistency, and thus incapable of being injected like ordinary bone. Bell calls the tooth vascular, says it possesses absorbents, and that the enamel is composed of fibrous crystals. We thus see that Leeuwenhoek's observation (which he does not appear to have fully carried out) was forgotten or ignored; but soon after the reappearance of Bell's work in 1835, the microscope was applied to the determination of the true structure of the teeth. Purkinje published in that very year a treatise 'On the minute structure of the Human Teeth.' In 1836, Professor Retzius, the well-known Swedish anatomist, published an account of his own researches on the same subject; and in 1838 a paper on the "Structure of the Teeth, the Vascularity of those organs, and their relation to Bone" was written, and sent to the Royal Society, by one whose name is held in the highest respect, I trust, by all of us, I mean Mr. John Tomes, who had been for the past year or two making a series of independent and original observations on the structure of the teeth, although at the time only a student at King's College—a fact which may well be encouraging to us, who, although we can scarcely hope to lay claim to Mr. Tomes' splendid abilities, may yet cultivate with the prospect, if not certainty, of ample reward, that untiring zeal, perseverance, care, and accuracy, which alone, in the midst of his necessary professional studies, could have enabled him to accomplish such remarkable results in his investigations, that Professor Owen

publicly declared that he (Mr. Tomes) had not only confirmed, but even surpassed, the researches of the continental anatomists, Retzius and Purkinje. From that time to the present, the microscopic study of the dental tissues has gone on increasing in importance, and although for some time too exclusively confined to the human subject, yet most valuable results have accrued from such researches as have been made in comparative Dental anatomy, and particularly striking, perhaps, are those obtained from the study of fossil teeth.

Preparation of specimens.—There are very few tissues in the bodies of animals which admit of microscopical examination in the natural condition, and even when they do, an imperfect notion of their structure is all that can be obtained therefore, we have to resort to various methods of preparation in order to bring our object into a condition fit for viewing it successfully. Especially is this the case with the dental tissues, the proper study of which is impossible unless we prepare them in the form of sections cut in various planes. The implements necessary for cutting sections are not very numerous, and no doubt we are all quite familiar with them—a fine saw, a corundum wheel, a hone, a couple of pieces of ground glass, and a little pumice powder, being all we require. Transverse sections of the roots being the easiest to prepare we will begin with them, and having selected the tooth we wish to examine, and clamped it in a vice to keep it steady, we can proceed to saw off a number of slices; they should be cut as thin as possible, for even if we do not wish for several sections from the same tooth, it will save time in grinding them down. They can be made thinner by rubbing them down on a piece of wood either with a corundum or an ordinary file, and should then be transferred to the ground glass for the finishing off. If procurable, a piece of ordinary thick plate glass about eight or ten inches square, and another about two and a half inches square, are the best for this purpose, and the surface may be easily roughened by grinding them together with a little coarse pumice or fine emery powder slightly moistened with water. The large glass should be placed upon a table, the section with some superfine pumice powder moistened with water, is then put on it, and the small glass is rubbed over it until the section is getting tolerably thin, when the pumice must be washed away, and the grinding continued with the two glasses moistened with water only, so that the specimen may receive as few scratches as possible. The size of the glass ensures perfect flatness of the section, but great care must be taken not to make it too thin, as it is quite possible to carry the

grinding so far that when it is removed from the glass it will curl up from the heat of the hand.

If we wish to study the relations of dentine, enamel, and cementum, to each other, in one specimen, we must take a longitudinal section through the crown and root. This is a much more difficult matter than making a transverse section, owing to the extreme hardness of the enamel, and its consequent brittleness and liability to chip, as the section approaches its required degree of thinness. One plan of cutting longitudinal sections is to clamp the tooth in a vice between two corks, and with a fine saw to cut two or three slices out of the centre, certainly a very economical proceeding, as several preparations may thus be made from the same tooth; but there is generally great difficulty met with in cutting through the enamel, and I think it is preferable to take a tooth, an incisor for example, and grind it down on a corundum wheel until the pulp chamber or any other part we may wish to examine is reached, then grinding away the other side, as far as possible with the wheel, using a piece of cork to keep the section in contact, and taking care to make it of as even a thickness as possible; it should then be rubbed on a hone, with plenty of water, rather than between the ground glasses, as it is not so liable to injure the enamel. A good Arkansas stone which has never been oiled answers well, and the section may be rubbed down with the finger or a piece of cork, the latter is best, especially for large sections, as it is difficult to keep them of an even thickness when the finger is used. The cork should be of fine texture and very considerably larger than the section, a bung answers the purpose well. A little knack—soon acquired by practice—is requisite to prevent the section from escaping from beneath the cork and getting broken. When the section is thin enough it should be carefully removed from the cork (to which it generally adheres), washed in a watch-glass with a camel-hair brush, and then, if we are not ready to mount it at once, it may be put into a bottle containing a little spirits of wine, where it may be left without injury for any length of time.

The above is the plan to which I should give the preference, but there is another which yields as good, if not better, results, though it takes a little more time. As before mentioned, the tooth should be ground on one side to the required distance, and afterwards rubbed on the hone to get out all the scratches, which may be ascertained by examining the surface with a small magnifying glass. The finished side is then to be cemented on to an old glass slide, which will give a firmer hold on it while the other side is being ground down,

this is done by placing a little Canada balsam on the slide and gently warming it over a spirit lamp, until on cooling it sets to a solid mass, which, however, should admit of being slightly indented by pressure of the thumb-nail; it is then rewarmed and the tooth pressed well down to the glass, so that the thickness of the cement may serve as a guide to the thickness of the section. Leave the tooth thus prepared for a little while to allow the balsam to get quite hard, and then proceed to grind away the tooth until the section is reduced to nearly the required thickness, when it may be finished by rubbing on the hone with water as before. Arrived thus far, the next step is to remove the section from the glass, and as heat would cause it to curl up, and thus render it useless, this must be done by placing the glass with the section downwards in a saucer containing a little benzole or spirits of turpentine, which will in a short time so soften the balsam that the section may be readily slid off the glass; this is decidedly the best way to remove it, as any attempt to raise it from either end would be almost certain to result in a simple or compound fracture. The section will now be in rather a sticky condition from the adherent balsam, but may be cleaned by soaking for a short time in benzole, then taking it out and allowing the benzole to evaporate, it should be transferred to the bottle of spirits of wine until you are ready to mount it.

Having said thus much with regard to the cutting of sections, we will proceed to the methods of mounting them.

Before coming to London, I had always been in the habit of polishing my sections on both sides, by rubbing them between two pieces of leather, with a little precipitated chalk made into a paste with water, and afterwards mounting them dry in air; but our esteemed lecturer, Mr. Charles Tomes, recommended me to use Canada balsam instead, and very kindly described the process in detail; at the same time giving me a copy of his "Notes on the microscopical demonstrations of Dental structures," to which I am indebted for a great deal of the substance of this paper.

In order to mount specimens successfully, great care must be taken to have all your materials scrupulously clean, and free from dust; the glass slide and cover must be absolutely spotless; and this may be accomplished by washing them in a solution of common soda, or in water to which a few drops of nitric acid has been added; a silk handkerchief is very useful to wipe the glass and cover with just before using them. With respect to the medium to be employed for mounting; there is only one which yields satisfactory results, namely, Canada balsam used hot. Solutions of Canada

balsam in benzole, or dammar varnish, which answers excellently for soft tissues, entirely spoil sections of dry teeth, by running in and filling the Dentinal tubes, and the lacunæ of the cementum, thus rendering them invisible or nearly so; and the same objection applies to all permanently fluid media.

The slide and the thin covering glass are both placed on a metal plate, which is heated by a spirit lamp placed under one side of it; the slide is on the hottest part, and the covering glass a little farther away; a drop of Canada balsam is placed on the centre of the slide and another on the centre of the covering glass. The metal plate should be hotter than the finger can bear, but if it be made excessively hot, the balsam will get burnt and turn yellow; should the balsam begin to smoke, it is a sign that the heat is excessive. In order to judge when the balsam has been heated enough, a pin point is to be dipped in it from time to time, and swung briskly through the air; so soon as the adherent drop of balsam is found to be quite free from stickiness when thus quickly cooled, it is ready to receive the section. The slide is to be taken off the hot plate, the section laid flat upon the drop of balsam, and the covering glass placed upon it, it is then pressed firmly down and held down for a minute or so, by the end of which time, the balsam will have got firmly set; should there be any difficulty in holding the cover down, a spring clip may be put on, and will be found to answer admirably. There is not much difficulty in avoiding air bubbles with a little management; unless the balsam has been over heated there will be none in the drops on the slide or the cover, so that nothing but care in applying the latter is required. The whole secret of success lies in using the balsam when it has been heated to precisely the right extent; if used too thin, it will run in and spoil the specimen by filling the tubes and the lacunæ; if too thick, it is unmanageable, and will not apply itself to the surface and edges of the section. If the section has been successfully prepared and mounted it is greatly superior to a section which has been laboriously polished on both its surfaces and then mounted and examined in air. A most useful instrument for manipulating the section and the heated covering glass, is made by bending the terminal quarter of an inch of wide-ended pair of brass forceps, to an angle of 45° .

If we are desirous of thoroughly familiarising ourselves with the Dental tissues, it will be well for us to prepare in this manner longitudinal sections passing through the crown, pulp cavity, and fang, to show the general relation of the parts; other longitudinal sections passing outside the

pulp cavity, in which the tubes will be cut transversely; transverse sections through crown and fang, to show the differences in the disposition and branching of the Dental tubes; and sections near the outside of the crown, so as to cut the enamel prisms obliquely and transversely.

The method of mounting just described is by far the best for the examination of the general characters of the teeth; in sections so prepared, the course of the Dental tubes, their connection with the lacunæ of the cementum, or their penetration into the enamel where it occurs, may be traced out with the utmost distinctness, always provided that the mounting has been so managed, that the balsam has not run in. The slide should be set aside for a few days, in order that the balsam may get thoroughly hard; when it may be finished off, by scraping away the superfluous balsam with a penknife, and all smears may be cleaned off by rubbing the glass over with a small piece of rag slightly moistened with turpentine or benzole; the slide should then be labelled, putting the name of the object, and anything you may particularly wish to note about it, as it will save a deal of trouble in picking it out from among others at any future time; let me also recommend you always to use thin glass *circles* for your covers, as not only do they look better, but admit of being ornamented with coloured varnishes; and even should you not care to do that yourselves, you may some day give a duplicate to a friend who may wish to do so and who would consider a square cover a great bore.

I should now like to throw out a few hints about making a collection of specimens, for there are many things to be seen, which will not be found in a few sections made from the first tooth we come across, but we must be constantly on the watch for every peculiar specimen that may turn up, the examination of which will generally repay us for any trouble we may take in preparing it.

With regard to the study of enamel, Mr Tomes says that, as the course of the individual fibres in human enamel, is waved and perhaps spiral, and therefore difficult to follow, teeth of other animals, in which their course is simple should be selected for study in the first instance. For this purpose the teeth of rodents are admirably adapted, as in many of them the course of the fibres is very regular and is capable of being traced out with accuracy. Longitudinal and transverse sections should be made of the incisors of the squirrel or beaver. As seen in the longitudinal section the enamel fibres start from the dentine at right angles to its surface, and after passing through about two thirds of the thickness of the enamel in this direction, abruptly bend upwards at

an angle of forty-five degrees with their original course. In transverse section the enamel fibres are found to be arranged in horizontal layers, each layer being a single fibre in thickness: in alternate layers the fibres pass to the right and to the left, crossing those of the next layer at right angles, and thus making a pattern of squares in the inner two thirds of the enamel; but in the outer third, where the fibres bend abruptly upwards, those of superimposed layers no longer pass in opposite directions, but are all parallel; in fact no longer admit of distinction into laminae.

In human enamel, the distinctness of the individual prisms, as well as their transverse striation, may be increased by treatment for a few seconds with dilute hydrochloric acid (1 in 15). The "brown striæ of Retzius" will be best seen in teeth with brownish coloured enamel.

In the dentine, interglobular spaces may often be found, especially in teeth of brownish colour with defective honey-combed enamel, and should be examined in dried sections mounted in balsam; also in sections boiled in wax, until rendered thoroughly translucent. Sections of fresh teeth should be immersed in an aqueous solution of carmine (carmine 10 grs. rubbed in a mortar with 30 drops of Liq. Ammoniae allowed to stand until the ammoniacal smell has passed off, and made up with distilled water to ʒiv). This will define the spaces by staining their edges, and to some extent their contents. Globular forms bounding the interglobular spaces and existing in the dentine around, are best seen in sections rendered very transparent, by boiling in wax, by immersion in glycerine, or by mounting in dammar varnish. Canada balsam previously heated until it hardens on cooling, and then dissolved in benzole, is a capital substitute for dammar varnish, and has the advantage of setting perfectly hard, tolerably speedily. It should be about the thickness of cream, and the section, having been deprived of its water by immersion in absolute alcohol, should be soaked in benzole before mounting.

Dentine may be decalcified by prolonged immersion in dilute hydrochloric acid (1 in 10), and by leaving a tooth for some days in concentrated hydrochloric acid it will be reduced to a shapeless slimy mass which consists solely of the walls of the dentinal tubes, the matrix having wholly disappeared; these may be examined dry and in water.

Tooth-pulp.—The best teeth from which to take the pulps are the temporary incisors and canines as they are already flat and thin, and after a few days' compression between two glasses in a viscid medium, such as glycerine, may be examined in their entirety. To get the pulp out, a line

should be cut round the tooth longitudinally with a saw or file, and then a pair of cutting nippers will split it open easily, and the pulp may be readily lifted out from the chamber in the tooth. The larger nerve-fibres may be rendered visible by treatment of the pulp with diluted caustic soda (one part liq. sodæ to ten parts water). For staining pulps the best preparation to use is Dr. Beale's carmine fluid, which is made as follows:—Put into a test tube ten grains of carmine and add half a drachm of strong liquor ammoniæ, by shaking, and with the aid of the heat of a spirit lamp, the carmine is soon dissolved, when the solution is to be boiled for a few moments, and then allowed to get cool. After the lapse of an hour much of the excess of ammonia will have escaped, then add two ounces of Price's glycerine, and two ounces of distilled water and mix well; next add half an ounce of alcohol, and pass the whole through a filter. This solution will keep for months, but sometimes a little carmine is deposited owing to escape of ammonia; this, of course, may be remedied by the addition of a little more ammonia, but it must not be made too alkaline or the colouring will be too intense. If, on the other hand, the reaction of the solution be neutral, the uniform staining of tissue and germinal matter may result, and the appearances from which so much may be learnt are not always produced. The pulp may be placed in this solution, and after twenty-four hours it will be sufficiently stained, when it must be soaked in glycerine for a short time, compressed between two glasses, and mounted in glycerine, and the cover fastened down with gold size, of which one coat should be allowed to dry, and the slide thoroughly cleaned, when another one or two applications of gold size must be made. To see the odontoblasts, Mr. Tomes recommends that a fresh tooth should be cracked open and left for a week in chromic acid solution ($\frac{1}{4}$ per cent.). By passing a thin knife blade between the pulp and the dentine the odontoblasts, with long dentinal fibrils withdrawn from the tubes, may often be brought away with the pulp; this should be examined in glycerine, also small fragments cut from the surface and leased out with needles.

Cementum.—Good examples of laminated cementum will often be met with in teeth that are much exostosed, vascular canals are also sometimes found in human molars the fangs of which are fused together by a great development of cementum; upper wisdom teeth will nearly always repay us for the trouble of making a section, so many curious varieties of structure are to be met with. Encapsuled lacunæ may often be found in wisdom teeth and in exostosed

cementum ; they are also excellently seen in the molars of the horse, and in the cementum occupying the "mark" in the incisors ; all specimens of cementum must be mounted in *hard Canada balsam*.

Dental caries.—The relation of the softened discoloured portions with the transulcent zone, which intervenes between them and the pulp cavity, may be studied in vertical sections carried through the softened patch and mounted in balsam. By this means it will be seen that air is unable to enter the dentinal tubes within the region of translucency, most likely on account of the calcification of the soft fibrils, though all observers are not agreed on that point.

The presence of *Septothrix Buccalis* in and around the dentinal tubes may be made more apparent by the use of iodine and an acid. These reagents stain the fungus a purple colour, in some respects resembling that obtained when vegetable structures containing cellulose are similarly treated. The colour is, however, distinctly violet, and not blue, as is the case with cellulose. To obtain the reaction, the section is treated whilst upon the glass slide, first with iodine solution (alcoholic solution, 1 to 200) and then with a weak acid ; it has been found that weak hydrochloric, lactic, or acetic acids answer the purpose well, but that dilute sulphuric acid is less suitable. Oftentimes, however, there is sufficient acidity in the section to produce the reaction without the addition of any more acid. "The contents of the filaments of *Septothrix* take the violet colour, while their envelopes do not, so that the septa of the filaments become distinctly mapped out." *Septothrix* may be abundantly found in the thick creamy deposit around the necks of the teeth in the mouths of people not given to the use of the toothbrush.

If it should fall to our lot to excise an epulis, and we wish to make an examination of it, this may be done by hardening it in spirit for a few weeks, and the same treatment is advisable for most soft tissues, and then imbedding it in stearine, or a mixture of equal parts of solid paraffine and white wax, which should be melted and poured into a metal tube, or cone of paper, a little larger than the subject to be cut ; the mixture should then be allowed to cool sufficiently to support the specimen when placed in it, and this should be held steadily until it is tolerably firm ; after it has been left awhile, to get quite hard, very thin slices may be cut with a razor, and mounted either in *Canada balsam* or glycerine jelly, taking care, if the former medium be used, to first soak the sections in benzole, or oil of cloves ; but if glycerine jelly be employed for the mounting, it will be found best to soak the sections for a few days in heavy glycerine.

The structure of voluntary muscle may be well seen by taking a small piece and teasing out the fibres in glycerine, when it may be mounted in glycerine jelly; this medium is also the best for mounting thin sections of cartilage.

Transverse and longitudinal sections of bone can be prepared in the same manner as transverse sections of teeth, and should be mounted in hard Canada balsam.

Just one word on the value of polarised light; in viewing tooth sections with it, each separate tissue gives a different colour, and in the examination of exostosed cementum, much may be learnt by its use, as every lamina produced by an inflammatory attack is marked by a different tint, which is made more evident by a line of deeper colour dividing it from the preceding layer; secondary Dentine also gives a decidedly different effect to the normal tissue, clearly showing that the matrix of one is denser than that of the other.

And now, gentlemen, I want to say a few words about ornamenting your slides, and my only apology for mentioning it here is that some of you have been so pleased with the appearance of my own slides that I thought it would not be amiss to tell you how they are done. It is, of course, a purely optional matter, and I would not advise you to spend time upon it during the sessions, but in the vacations it will be found very interesting work, and I feel sure that after a few trials you will be pleased with the result. The process consists in putting on a white ground of dammar varnish round the covering glass, and afterwards a series of rings of different colours by way of ornament; the materials required are some gum dammar, a bottle of benzole, a few tubes of artists' oil colours, and two or three of the finest sables that can be obtained, with long slender handles. The selection of the colours may be left to your own choice, but the zinc white is necessary for the ground, and vermilion, emerald green, chrome yellow, and ivory black, are very useful for the ornamental rings. These rings are used by some microscopists as a means of classifying their objects; thus, for instance, a circle of green denotes vegetable substances, red those of animal origin, and yellow those of the mineral kingdom. To make the varnishes dissolve some pieces of gum dammar in benzole, and having provided three or four one- or two-drachm wide-mouthed phials, half fill each with the colourless solution thus obtained, and add sufficient of the tube colour to give the depth of tint required; but it is necessary to avoid putting too much, as the oil in the colour would prevent the varnish from setting hard for some time. If Canada balsam has been employed for mounting the object

a little solution of shellac in alcohol must be run on round the cover before applying the white varnish, as, owing to the solubility of the balsam in benzole, it would otherwise run in and spoil the object; where glycerin jelly has been used this will not be required. The slide is placed upon a turntable and accurately centred, a little of the white varnish is taken up with one of the sables, the table is then whirled round with the left hand, and the varnish applied continuously for one or two minutes, when it will be found to run evenly round the cover and completely fill up the angle; when enough has been put on the slide must be removed to a place where it will be safe from dust, and left for three or four days to harden, after which the coloured rings may be put on. The coloured varnishes should be rather thinner than the white, and while working with them a little benzole should be added now and then to prevent tackiness; a nice appearance is produced by alternating black with the coloured rings; to put them on, the slide with its white ground is again centred on the turntable, the latter is rapidly spun round, and the coloured varnish applied with the point of a sable; this will produce a very fine line, and after as many have been run on as will suit your taste or requirements, the slide will, or ought to, present an appearance which nothing can surpass.

In conclusion, gentlemen, let me express a hope that some of my remarks, though I can lay no claim to originality, may be of service to you in the prosecution of your studies, and though of course failures will be sometimes met with, yet success will eventually crown your efforts if you are only patient and persevering, and the study of microscopy will ever yield you an increasing amount of pleasure and profit.

In the discussion which followed, the President, Mr. Pedley, and Mr. Magor, took part.

A vote of thanks was unanimously accorded to Mr. Daish for his excellent paper.

The meeting then adjourned.

MR. FLETCHER'S TRANSLUCENT FILLING.

WE have received a very favorable report from Mr. Coleman and others respecting the working of this new material for filling, which we can thoroughly endorse from our own experience, but want of space compels us to defer further notice of these communications. Of course, as to its durability it is impossible, as yet, to speak.—ED.

Miscellaneous.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The following gentleman passed their examination before the Board of Examiners in Dental Surgery, 21st, 24th February, 1879, and received their diplomas.

*Drinan, Andrew, Dublin.

Connell, Edward Arthur, Bristol.

*Rook, Eustace Henry, Thaxted.

Reeve, Walter, Putney.

Hayman, Samuel John, Bristol.

Dewes, Hugh William, Ashby de la Zouch.

Four in practice prior to 1859 were referred to their studies for six months.

Through the courtesy of the authority of the College we subjoin the questions set for the written examination.

N.B.—The Candidate is required to answer at least one of the two questions, both on Anatomy and Physiology, and on Pathology and Surgery.

Anatomy and Physiology.

1. Describe the course of the aorta through the abdomen; mentioning its relations, and enumerating, in order, the branches it gives off in that region.

2. What are the constituents of the atmosphere, and their relative proportions? Describe the changes which occur in respired air.

Pathology and Surgery.

1. State what are the signs and the immediate consequences of fracture of a long bone; and mention the principles upon which the treatment of such an injury is to be conducted.

2. Define what you mean by an ulcer. Mention in what respects the discharge from an ulcerated surface varies under different circumstances, and explain to what causes such variation is due.

N.B.—The Candidate is required to answer at least two out of the three questions, both on Dental Anatomy and Physiology, and on Dental Surgery.

Dental Anatomy and Physiology.

1. Describe specimens 1, 2, and 3 under the microscope.

2. Why are teeth called "dermal appendages?" Give an example, taken from comparative anatomy, of the meaning of the term.

3. Describe how the movements of mastication are affected, and the physiological action of the saliva.

Dental Surgery and Pathology.

1. Describe the various methods of applying artificial teeth, and mention the important surgical and mechanical points to be regarded.

2. Enumerate the abnormal conditions of the Dental organs which may give rise to neuralgia.

3. What are the chief causes of inflammation of the periodontal membrane? Describe the formation and progress of an alveolar abscess.

* In practice prior to 1859.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

REGULATIONS TO BE OBSERVED BY CANDIDATES FOR THE DENTAL DIPLOMA.

1. Candidates for the Dental diploma must have been engaged during a period of not less than four years in acquiring professional knowledge. During at least three years of that period they must have been engaged in acquiring a practical knowledge of Dentistry under a practitioner registered under the Dental Act.

2. Candidates not exempted under Section 10 must have attended the following curriculum:—

- Anatomy, one course, six months.
- Dissection, with demonstrations,* nine months.
- Physiology, not less than fifty lectures.
- Chemistry, one course, six months.
- Practical chemistry, with metallurgy, one course, three months.
- Surgery, one course, six months.
- Medicine, one course, six months.
- Materia medica, one course, three months.
- Clinical surgery, instruction in, six months.

Also the following courses special to Dentistry:—

- | | | |
|------------------------------------|---|----------------------------|
| Dental anatomy and physiology. | } | <i>one course of each.</i> |
| Dental Surgery. | | |
| Dental mechanics, with metallurgy. | | |

Attendance for two years on a recognised Dental hospital, or the Dental department of a recognised general hospital.

3. The examination shall be conducted at two sittings. At the first of these the subjects shall be anatomy, physiology, and chemistry, with metallurgy. At the second the subjects shall be surgery, medicine (with materia medica), and the subjects special to Dentistry.

4. The examination shall be conducted both by written papers and oral questions. Preparations, casts, instruments, drawings, &c., may be employed at the discretion of the examiners. Candidates may also be tested in manipulative skill.

5. The fee for the Dental diploma shall be ten guineas, four guineas being deposited with the secretary on entering for the first part of the examination, and six guineas on entering for the second part.

6. Unsuccessful candidates are remitted to their studies for a period to be determined by the judgment of the examiners, but in no case for less than three months.

7. In the case of a candidate being unsuccessful at the first part of the examination, the sum of two guineas of the fee deposited shall be retained to meet the expenses of the examination. At the second part of the examination, the sum of three guineas shall be retained for a similar purpose from the fee of every unsuccessful candidate. In both cases the remainder of the fee shall be returned to the candidate.

8. Candidates already qualified under the Medical Act shall be required to produce only the certificates of attendance in the subjects special to Dentistry, and shall be examined in these subjects only.

* Course of twenty Lectures on the Anatomy of the Head and Neck may be substituted for Demonstrations.

9. All candidates who commenced their professional education on or after 1st of August, 1878, must produce a certificate of having passed the preliminary examination for the ordinary surgical diploma of the faculty, or one of the examinations recognised as equivalent to it.

10. Candidates in practice as Dentists before 1st of August, 1878, and registered under the Dental Act, who are unable to produce the certificates required under section 2, shall produce a certificate of moral and professional character signed by two registered medical practitioners. They shall also fill up a form of application, in which they will furnish replies to certain questions as to age, length of period in practice, professional education and status, &c. Copies of this form may be had on application to the Secretary.

11. The Council of the Faculty shall have absolute power to determine what candidates are to be admitted under the foregoing section (10).

12. Every candidate, before being admitted as a licentiate, must be not less than twenty-one years of age, and shall subscribe a declaration engaging not to advertise, or pursue any other unprofessional mode of attracting practice.

13. Licentiates in Dentistry of the Faculty shall be entitled to consult books in the library. They shall also have the same right of admission as licentiates in surgery to any lectures which may be delivered in connection with the faculty lectureship.

14. The examinations will be held quarterly. Candidates are required to enter at least four days before the period of examination.

15. The following will be the periods of examination for 1879:—Tuesday, 22nd April; Friday, 11th July; Tuesday, 21st October. On each of these occasions the examination will commence at ten o'clock.

ALEXANDER DUNCAN, B.A., Secretary.

DENTAL BOARD AND DENTAL LECTURES.

1. The Dental Board shall consist of six members, three of whom shall be fellows of the faculty, and the other three registered Dentists, who may or may not be fellows of the faculty. The president of the faculty shall be convener of the Board.

2. The Election of Members of the Dental Board by the faculty shall take place on the first Monday of October each year. The examiners shall hold office for three years, and be eligible for re-election. Two of them (one being a registered Dentist) shall retire by rotation every year.

3. Lectures and courses of instruction common to the medical and the Dental curriculum will be recognised on the same conditions as those laid down for the ordinary licence of the faculty.

4. Lectures or courses of instruction on subjects special to Dentistry will be recognised:—

- (A) *In Glasgow*, if the lecturer has been specially recognised by the faculty.
- (B) *In Edinburgh*, if recognised by the Royal College of Surgeons of Edinburgh.
- (C) *In England or Ireland*, if recognised respectively by the Royal College of Surgeons of these divisions of the kingdom.

5. Applicants in Glasgow for recognition as teachers of subjects special to Dentistry must be either :—

1. Qualified under the Medical Act.

2. Licentiates in Dentistry of one or other of the bodies authorised to grant qualifications in Dentistry.

6. The council of the faculty shall have power from time to time to make such alterations on the curriculum of study, rules for conducting the examinations, and other matters connected with the Dental diploma, as they may deem necessary.

FORM OF APPLICATION BY DENTISTS ADMITTED SINE CURRICULO.

To the President and Council of the Faculty of Physicians and Surgeons, of Glasgow.

I hereby make application to be admitted to the Examination for the Dental Diploma of the Faculty of Physicians and Surgeons of Glasgow, and I declare that the replies which I have made to the subjoined enquiries are accurate.

Signature, Address, Age last Birthday,
 Date of Commencing Apprenticeship as a Dentist,
 Date of Termination of Apprenticeship,
 Whether Qualified under the Medical Act,
 If so, State Qualification and Date of it,
 Whether Practice as a Dentist has been carried on in connection
 with any other Business, and if so, what Business,
 The Particulars of Professional Education.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

WE are indebted to the courtesy of Mr. Alexexander Duncan, Secretary of the Faculty of Physicians and Surgeons of Glasgow, for copies of the following papers:

FIRST WRITTEN EXAMINATION AT 11 A.M. TUESDAY, JANUARY
 28TH, 1879.

Anatomy.

(Two questions to be answered and not more.)

Describe the attachments, relations, and actions of the muscles which connect the hyoid bone to the lower jaw.

Name the bones, synovial membranes, and ligaments of the carpus; enumerate the muscles which are in immediate connection with it.

Give the origin of the fifth intercranial nerve; mention its functions; name the branches given off by its first division.

Physiology.

(One question.)

In connection with the cerebro-spinal axis what do you understand by the terms centre commissure and nerve? What are their relative offices?

Chemistry.

(Two questions to be answered and not more.)

By what means are the salts of potassium, iodine, and ammonium distinguished from each other?

What are the properties of iodine and how prepared? mention some of its oxygen and hydrogen compounds and formulæ.

How is lead obtained from its ore; mention some of its soluble and insoluble salts, and give tests for their presence.

SECOND WRITTEN EXAMINATION AT 1 P.M., THURSDAY,
30TH JANUARY, 1879.

Surgery.

In what class of cases is tracheotomy necessary? Describe the operation, the parts to be avoided, and subsequent treatment.

Describe the morbid anatomy and symptoms of so-called cystic disease of the antrum in its simple and complicated forms, and the treatment that should be adopted.

Medicine.

(One question to be answered and not more.)

State what information you may derive from feeling the pulse apart from its rate. Give the characters that are met with in various heart diseases. Under what conditions is unusual slowness of pulse met with?

Give the symptoms, causes, and treatment of scorbutus.

Dental Anatomy and Physiology.

(Two questions to be answered and not more.)

Describe the structures and structural changes connected with the earliest stages in the development of a human tooth.

Give the relations of the internal carotid artery, the inferior maxilla, and adjoining structures.

What is the number of the deciduous teeth in the human subject, what are the dates of their appearance, and by what teeth are they succeeded, and at what times?

Dental Surgery and Pathology.

(Two questions to be answered and not more.)

Describe the difference in the extraction of the upper molars and the lower, the upper bicuspid and the lower, and the upper centrals and the lower, and give the reasons.

What are the general causes of sinus in the lower jaw of the cheek? Give the progress of a case and the treatment you would adopt.

Mention the distinguishing characters in the action of nitrous oxide gas, chloroform and sulphuretted ether, the rules for their exhibitions, and the dangers and difficulties apt to occur with each.

The *viva voce* examinations were held at 6 p.m. on the 28th, and at 6 p.m. on the 30th.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

DENTAL DIPLOMA EXAMINATIONS, FEBRUARY, 1879.

The Candidate is to write an answer to only ONE of the Questions on this paper.

Examiner.—MR. W. PEARSALL.

1. Describe some of the methods used for removing the roots of teeth, and the instruments you would use for that purpose.

2. Mention some of the causes of Dental Neuralgia, and the treatment you would prefer.

Examiner.—MR. RICHARDSON.

1. Describe the histology of Enamel, and give its chemical composition.

2. What are the functions of the superior and the inferior divisions of the fifth nerve?

Examiner.—MR. E. STAMER O'GRADY.

1. Give the attachments of the Genio-Hyo-Glossus Muscle. Enumerate its relations.

2. Trace the Inferior Dental Nerve, and give its distribution.

Examiner.—EDWARD A. STOKER.

1. Mention the causes, symptoms, and treatment, of Necrosis of Alveolar processes.

2. What is understood by Decay of Teeth by Denudation? Give some of the causes suggested for it, and the treatment you would adopt for its arrest.

Examiner.—MR. STACK.

1. Given a right first upper permanent Molar, with a large proximo-coronal cavity, and the nerve dead. What means would you adopt in order to preserve such a tooth?

2. How would you use arsenic for devitalising a pulp? Explain fully how you would prepare the tooth; state the exact quantity of arsenic you would use. In what cases would you use mechanical, and in what cases chemical, agencies for destroying a pulp?

Examiner.—MR. SHERLOCK.

1. How would you proceed to arrange a plain set with tube teeth?

2. How would you diagnose inflammation of the pulp, and, if caused by the pressure of a filling, what treatment would you use?

VIVA VOCE QUESTIONS.

Asked to describe the microscopical structure and composition of cementum, dentine, and enamel.

Questions on the development of the teeth, the direction in which calcification commences, what are odontoblasts, the membrana eboris, granular layer, Nasmith's membrane, &c.

Shown different jawbones to determine age, and different teeth to say whether right or left, temporary or permanent, upper or lower, and some carious; was asked about the advisability of stopping, and with what, and reasons for so doing.

Requested to apply the rubber-dam on three teeth on the inferior maxilla with clamps, and questions on gold stopping and the uses of the matrix.

Asked the articulations of the superior maxilla and the insertion and origin of the digastric.

Give the causes, symptoms, and treatment of chronic inflammation of the gums.

Asked for the chemical composition of saliva and its uses.

How to stop hæmorrhage after extraction.

About alveolar abscess and antral abscess, their causes and treatment.

What causes lead to the loss of the permanent teeth.

Shown specimens of artificial dentures to point out defects.

Asked when I would use the elevator in extractions, and for what cases is it not advisable.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :

Twelve Months (post free) 13s. 0d.

 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
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ANSWERS TO CORRESPONDENTS.

“A PRESTON SUBSCRIBER.”—We cannot undertake to correct the effusions of our correspondents. When signed with their real name they must be judged on their own merits, grammar included.

Communications received from J. B. Magor, Dr. Orphoot, Lawrence Read, Dr. Cook, S. Hamilton Cartwright, Andrew Wilson, S. J. Hutchinson, McDowell, Alexander Duncan, Sec. Faculty of Physicians and Surgeons, Glasgow.

BOOKS AND PAPERS RECEIVED.

‘Paper Consumers’ Circular.’ Sadelle & Co., Upper Thames Street.
 ‘L’Odontologia.’
 ‘Glasgow Medical Journal.’
 ‘Journal of the Chemical Society.’
 ‘Le Progrès Médical.’
 ‘The Missouri Dental Journal.’
 ‘Transactions of the Illinois State Dental Society.’
 ‘The Dental Register.’
 ‘Deutsche Vierteljahrsschrift für Zahnheilkunde.’
 ‘Transactions of the Odontological Society of Great Britain.’
 ‘The Dental Cosmos.’
 ‘Le Progrès Dentaire.’
 ‘The Monthly Review of Dental Surgery.’
 ‘The Doctor.’
 ‘Chemist and Druggist.’

NOTICE.

All gentlemen attending the General Meeting of the Dental Profession on Monday, March 3rd, are invited to send their name and address to the Editor of this Journal, 11, New Burlington Street, for publication in our next issue, when a full verbatim report of the meeting will be published.

British Journal of Dental Science.

No. 274.

LONDON, APRIL, 1879.

VOL. XXII.

Dental Surgery and Medicine.

INJURIES AND DISEASES OF THE ANTRUM.

A paper read before the Students' Society of the Dental Hospital of London, October 21st, 1878.

By J. B. MAGOR, Esq.

(Continued from page 115.)

IN speaking of the anatomy of the antrum, I mentioned a plan which had been proposed of catheterising the antrum through its natural orifice of communication with the nose. This plan was originally advocated in a treatise on "Diseases of the Antrum," read before the French Academy of Surgery by M. Jourdain, in 1795. A committee of the Academy, which was appointed to test the feasibility of this notion, rather decided against it; later on Mr. Bell made some experiments on the dead body at Guy's Hospital, in order to see if something could not be made of Jourdain's proposal, but came, apparently, to no definite conclusion on the subject. Amongst more recent surgeons, Mr. Salter thinks the idea reasonable and practicable, while M. Giraldès says "such an operation is impossible, and should be erased from works on surgery."

Having washed out the cavity of the antrum, careful search should be made with suitable probes for foreign bodies, pieces of necrosed bone, &c., and all such should be removed. Here, again, the presence of "loculi" introduces a complication; it may be necessary to employ a curved scoop, in order thoroughly to explore them, as was done by Mr. Cattlin in a case under his care, in which a tooth-fang was pushed into the antrum.

The remainder of the treatment consists in injecting the cavity daily with disinfectant and astringent lotions, until the lining membrane is restored to a healthy state. As disinfectants chloride of lime and permanganate of potassium

are excellent; the latter especially, and in some cases no other injection may be required. But if the membrane be slow in returning to its normal state, a dilute solution of nitrate of silver, say one or two grains of the salt to an ounce of water, may be used, or weak solutions of sulphate or chloride of zinc. Mr. Cattlin observes that the lining membrane of the antrum is liable to become accustomed to any particular remedy, which will then cease to be efficacious; it is, therefore, advantageous to have a variety of injections for use, so that if the condition of the parts ceases to improve under one, another may be substituted for it. Besides those solutions above named, solutions of alum, copper sulphate, borax, potassium iodide, tannin, bichloride of mercury, sesqui-chloride of iron, &c., have been recommended.

During the intervals between the injections the cavity must be kept closed to prevent the access of food or other extraneous matters, while at the same time the perforation must be prevented from healing up until the treatment is completed. The first plan which would be likely to occur to the mind of the operator for such a purpose, is the use of a plug of wood or cork, but this, though answering the purpose sufficiently well, is rather a rude idea. Soft wax, moulded to fit the hole, is a great improvement and answers well. Another method, proposed and practised by Mr. Salter, is to make a plate to fit the alveolar ridge, with a short piece of gold tube running from its upper surface up into the antrum; this tube keeps the hole open, permits of the free use of the syringe, and may be closed when not wanted to be kept open by a cork. When the necessity for keeping the orifice patent has ceased the tube may be cut off, the hole in the plate covered by a piece of metal soldered on, and the food, air, &c., being thus prevented from gaining access to the wound, it will heal more readily, especially as the smooth, clean surface of the plate will give support to the granulations which will spread across it from the opposite sides of the wound.

Should the pain, in an acute case of antral abscess, be severe, warm decoction of poppy-heads, warm infusion of conium, or some of the sedative solution of opium, mixed with some warm mucilage may be injected.

Supposing a case of inflammation of the lining membrane, either from a diseased tooth, the presence of a foreign body, or the spread of catarrhal or other inflammation from the nose, comes under our care before the formation of matter, we may, by prompt measures, avert the impending mischief. If the disturbance be due to a diseased tooth or teeth, it, or they, should be removed; free incisions should be made

through the gums down to the bone, near the sulcus between the cheek and the gum, or leeches may be applied; hot fomentations should be held in the mouth, and purgatives should be administered. If we have reason to suspect the presence of a foreign body within the antrum, an opening should be made, and the sinus explored, and all foreign matters removed.

Taking the affections of the antrum in the order of their importance to us as Dental surgeons, the next subject which claims our attention is that of "Dentigerous Cysts;" but this leads us on by natural and easy stages to consider other cysts, and then solid tumours, malignant and non-malignant, and causes us to leave till last those forms of antral disease caused by injury to the bony walls of the sinus, or hypertrophy of their substance; and from the relation which these have to suppuration in the antrum, I have thought it best to say a few words about them next.

The antrum is liable to be involved in injuries to the face and maxillary bones from direct violence, and in those resulting from necrosis of these bones. Of the latter class of cases little need be said: of course the necrosis must be treated, and if the antrum become involved, either through inflammation extending to its lining membrane or through the accumulation in it of pus from its necrosing walls, the treatment above detailed will come into use.

Injuries from direct violence, as from severe blows, falls, crushes, or gunshot wounds, occurring to the superior maxillary bone, frequently lay open the antrum. In a person in good health, if the parts be adjusted, as far as possible, in their normal position, and the collection of blood-clots, &c., in the maxillary sinus be prevented, the parts if kept steady and at rest will often unite without any mischief to the antrum. It is a well-known and important fact that fragments of the superior maxillary bone should *not* be removed, as, owing to the free supply of blood to the parts, they rarely necrose, but usually unite readily. In some instances, however, which will probably be connected with an unhealthy state of the constitution, injuries of this kind lead to troublesome suppuration in the antrum, and perhaps to the formation of a fistulous opening through the cheek.

In the case of gunshot wounds laying open the antrum, the missile will sometimes lodge in the cavity of the sinus, and set up inflammation and suppuration. Several cases of shot, &c., lodging in the antrum, are on record. Fragments of metal from the bursting of a firearm also occasionally make their way into the maxillary sinus. A well-known case of this kind is that of a Newfoundland fisherman, who

was severely injured about the face by the bursting of a gun, and for eight years suffered from abscesses opening through the face, loss of smell, and other symptoms, with considerable pain and constitutional disturbance, caused by the presence in the antrum of a mass of metal from the breech of the gun, weighing no less than four ounces. This was removed, and the patient recovered. In another case suppuration was caused by the lodgment in the antrum of a nail from a gun which had burst. But a very extraordinary case is that of a man whose gun burst while he was shooting birds; the explosion destroyed his right eye, and so damaged the roof of the orbit that the brain protruded. He recovered, but, twenty-one years after, being seized with a choking sensation, as if there were something sticking in his throat, he put his finger into his mouth, and drew forth the breech of the gun, much oxidised and covered with purulent matter. It had apparently broken through the floor of the orbit into the antrum, and lodged there unsuspected for this long period.

(To be continued.)

CASE OF IMPERFECT DENTITION.

By JOHN T. FRIPP, Esq.

THE following is an account of what I think is a somewhat interesting case of non-appearance of permanent teeth, which has lately come under my notice in course of practice.

W. A. C—, a young man, æt. 20, came to me for the purpose of getting a set of artificial teeth. On looking into his mouth, I was somewhat surprised to find that in the upper jaw he had two conical-shaped teeth in the place of the central incisors, and a very small shapeless tooth situate in about the position of the second bicuspid on the right side. In the lower jaw there were no front teeth, but two small teeth on either side taking the place of the bicuspids. These are all the permanent teeth he ever had. One of the temporary molars remains on the left side in the lower jaw. I questioned him very closely to elicit if possible, any information which might throw some light on the case; I could not, however, gain any. He could not remember, nor had he heard of having any serious illness in infancy. All he could tell me was that he had the scarlet fever very badly when about seven years of age. I have sent models of the case, which I have pleasure in placing at your disposal for any purpose you may think proper.

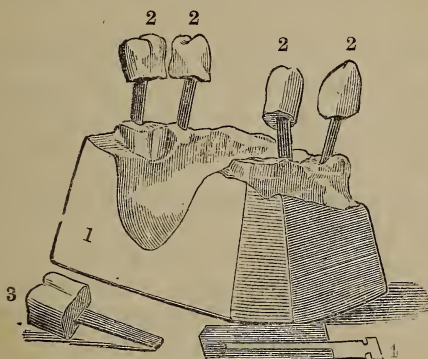
Mechanical Dentistry.

IMPROVEMENTS IN MODEL MAKING FOR SAND MOULDING IN DIFFICULT CASES.

By J. E. HIBBERT, Esq.

IF you will insert this communication in the 'British Journal of Dental Science,' I believe it will prove a great assistance to many of your readers.

Instead of the ordinary strengthening pins for plaster teeth take pieces of No. 8 brass plate, $1\frac{1}{4}$ inch long and about $\frac{1}{16}$ to $\frac{1}{8}$ inch broad at one end; cut them tapering from end to end, make a nich on each side of broadest end (to give plaster tooth a good hold), straighten them out, and smooth-file them; then, to form a sheath, take a piece of thin-sheet



1. The model.
- 2, 2, 2, 2. Showing teeth raised on model.
3. Showing tooth and pin taken off the model.
4. Showing pin with sheet lead partly wrapped round pin to form sheath.

N.B.—To prevent sand getting down pin cavity during sand moulding, damp a small piece of tissue paper and put it over each cavity.

pattern lead, and wrap it tightly round each piece, leaving just sufficient of broadest end bare that will be taken up by the plaster tooth; let it overlap the other end about $\frac{1}{8}$ of an inch; close the end with the pliers, to form a cavity between the end of the pin and bottom of the sheath to receive "grit" that may accidentally get in, so as not to prevent the plaster tooth going properly home again after having been once separated. After having damped the impression take the

pins with the sheath on, and put one in each tooth depression, broadest end down, tack each to the side of the impression with strips of wax in proper position, mix plaster (not too thick) sufficient to fill the teeth depressions, and with the aid of a fine nozzle funnel and piece of wire, drop it into each tooth depression until nearly full. Allow it to set, and after soaping each, mix fresh plaster, and make model in usual way, which, if properly made, the teeth will be as firm as if the model had been made all in one, but the teeth and model can be separated at pleasure.

44, Broad Street, Pendleton, Manchester.

Hospital Reports and Case-Book.

DENTAL HOSPITAL OF LONDON,

THE ANNUAL GENERAL MEETING of governors of the above hospital was held in the premises, Leicester Square, on the 13th inst., R. C. L. BEVAN, Esq., Treasurer, in the chair.

The following report and statement of accounts was read by the Hon. Secretary :

The Committee of Management of the Dental Hospital of London, in presenting their Twenty-first Annual Report, are pleased to say that the year just concluded has been more prosperous than the preceding one.

The Committee have to acknowledge a munificent donation of £100 from a lady who has not favoured them with her name, the donation having been given under the initials of H. H. This donation enabled the Committee to reinvest a portion of the Stock which they were obliged to sell out last year ; at the same time they took the opportunity of passing a resolution that all donations of £50 and upwards should in future be invested instead of being added to the current account.

The Committee are indebted to Mr. Gascoigne Palmer, of Cheltenham, for having kindly influenced this benevolent lady to confer so great a benefit on the Institution. The late Mr. Palmer was a staunch and liberal supporter of the Hospital from its foundation, and it is very gratifying to the Committee to receive such material evidence of the deep interest felt in it by his son.

The Committee acknowledge with gratitude a fifth donation of £25. from T. Jones Gibb, Esq., making the total amount contributed by him £105 10s.

They have also to announce the liberal donation of £30 by Joseph Walker, Esq., M.D., in addition to two previous donations of £10 10s. each, making a total of £51.

The sum of £71 17s. 6d. has been received from the Metropolitan Hospital Sunday Fund, and £25 3s. 3d. from the Hospital Saturday Fund, being £8 8s. 1d. more than was received from these funds last year.

The Balance Sheet annexed to this report will show the financial position of the Hospital.

The Donations of Life Governors during the past year amounted to £147, as against £115 10s. in 1877, £220 10s. in 1876, and £280 in 1875. The Annual Subscriptions amounted to £482 7s., as against £457 6s. 6d. in 1877, £397 18s. 6d. in 1876, and £393 19s. 6d. in 1875; while the General Donations amount to £235 8s. 8d., as against £158 8s. 5d. in the past year. The Governors will be pleased to observe that these Donations and Subscriptions contrast very favorably with those of last year.

The amount furnished by Donations of Life Governors show an increase of £31 10s. The Annual Subscriptions show an increase of £25 0s. 6d. while the General Donations show an increase of £77 0s. 3d. The Committee think the increase under each of these three heads must be considered fair ground for congratulation, more especially when it is considered that the past year was one of unusual commercial depression; and they are encouraged to hope that the present state of the funds may enable them to replace the whole amount of Stock which they were obliged to sell out recently.

The vacancy in the list of Assistant Dental Surgeons, caused by the elevation of Mr. Moon to the post of Dental Surgeon, has been filled by the appointment of Mr. Frederick Canton, and the Committee feel that a more judicious selection for the post could not have been made. Mr. Canton's well-known name and his high position as an experienced practitioner entitle him to the fullest confidence.

A loss has been sustained by the resignation of the post of Assistant Dental House Surgeon, by Mr. Noble, who was succeeded by Mr. Dews; the latter gentleman held the appointment for a short time only, and he has been succeeded by Mr. McCall. This appointment having been made by the Medical Officers, the Committee have the fullest confidence that Mr. McCall is well qualified for it. The Committee feel great regret in having to announce the resigna-

tion, by Mr. Samuel Hamilton Cartwright, of the office of Lecturer on Dental Surgery and Pathology in the London School of Dental Surgery. Mr. S. H. Cartwright held this appointment for seven years, during which period it is needless to say that he devoted himself to its duties with great diligence and attention, and the Committee feel that they owe him a debt of gratitude for the benefit which his name and teaching have conferred upon the School.

The Committee have appointed Mr. Coleman to fill this vacancy, and from the benefit which the Hospital has received from his lengthened connection with it as Assistant Dental Surgeon and Dental Surgeon they cannot doubt that equal advantage will accrue to the School from him as Lecturer; and they feel sure they may fairly congratulate the Governors upon Mr. Coleman's association with the School.

In accordance with the Laws of the Hospital, the following three gentlemen retire from the Committee of Management, namely:—Messrs. W. R. Barker, J. Tones, R. Parkinson. To fill these vacancies the Committee beg to recommend the election of the Rev. C. B. Twining, Messrs. Oakley Coles, and R. B. Wilson.*

In conclusion, the Committee beg to return their thanks to the Medical Officers for their valuable services and exertions, by which the high character of the Institution has been maintained, also to the Auditors for the trouble they have taken in auditing the accounts of the Hospital.

JOHN ERIC ERICHSEN, *Chairman*.

The Secretary also read the following Report of the Medical Committee for the year 1878.

The Medical Committee have the pleasure and satisfaction of laying before the Governors the Annual Statement at the expiration of this the Twenty-first year of the existence of the Dental Hospital of London; again showing an increase in the number and character of the various operations performed for the relief of those patients seeking Dental aid and advice. Last year the Medical Staff were able to show an increase of 5000, this year the increase is 1307.

The following analysis shows the number and character of the different operations:

Teeth preserved by filling:—

With Gold	1086
„ White Foil	1176
„ Plastic Material ...	4850
Irregularities of Teeth treated Surgically and Mechanically...	712
Miscellaneous Cases	3339

* These gentlemen have since declined to serve on the Committee.

Advice and Prescription Cases	1057
Operations { Children under 14	6226
{ Adults	9000
under Anæsthetics	2810
,,	
	<hr/> 30,986

In carrying out the work of this valuable charitable institution the Medical Staff are glad to acknowledge the services and assistance of the House Surgeon, and Assistant House Surgeon, appointed from time to time. The system of appointing the senior Students as Dressers at stated intervals gives every pupil the advantage of obtaining thorough practical knowledge of his profession, under the immediate supervision of the Medical Officers; and in addition, the Medical Tutor and Demonstrator appointed by the Staff at considerable salaries, at their own cost, have been of great advantage to the Students and the Institution. Their welfare, conduct, and attendance are well cared for by the present very able Dean, Mr. F. Underwood, whose services are of the greatest advantage to the Hospital and School.

The Committee regret the retirement of Mr. S. Hamilton Cartwright from the office of Lecturer on Dental Surgery and Pathology, which he has filled with great success for the last seven years. Mr. Coleman has fortunately been appointed to the vacant office, which must be of the greatest possible advantage to the Hospital and School.

The Medical Committee beg to express their thanks to the Committee of Management for the promptitude with which the wants necessary to the efficient discharge of the duties are supplied.

A. COLEMAN, *Chairman*.

GEO. GREGSON, *Hon. Sec.*

The CHAIRMAN, in congratulating the governors upon the increase in the funds, said he could not help expressing his regret at missing one face which he generally saw at the meetings, namely, that of Mr. Thomas Rogers, who was prevented from attending by temporary indisposition. He observed that the increase in the annual subscriptions was £25; in the Sunday and Saturday Hospital Fund the increase was £8 8s. 1d., and the increase in the life governors' donations was 30 guineas. He was astonished that there was not a larger number of life governors, considering the extreme benefit of the Institution to all those who availed themselves of it. He himself always took the opportunity of recommending it. Whenever any one asked him for a ticket for their servants or friends he always told them they ought to subscribe to the Hospital. It was not fair for any one to ask such a thing if he was able to become a life

governor. (Hear, hear.) He was glad to have to announce that the total increase in donations and subscriptions amounted to £141 18s. 10*d.*, and he hoped that in each succeeding year there would be a greater increase. He begged to propose that the Report as read be adopted, printed, and circulated with the statement of accounts for the past year.

The Rev. J. B. TWINING seconded the motion. He agreed with the Chairman that the want of additional subscribers, especially those who were deriving benefit for their families from the Hospital, was much to be regretted and not easily explained. The number of applications he had for tickets was very great, and he took all the pains he could to satisfy himself, by personal interviews with the applicants, that they were not in a position to bear a Dental bill. There were some cases of young women who could certainly not pay; but he was afraid there were many who took advantage of the Hospital who ought not to draw upon it to the extent they did. He also urged upon those to whom he gave tickets to give some little donation, or as much as they could, in testimony of the services rendered to them, impressing upon them that if they could not pay a Dentist's bill they might contribute a few shillings towards defraying the expenses, which were heavy, especially in stopping with gold. It was something to say that the Hospital had held its ground during the past year, and he hoped that by wisdom exercised in the various appointments and in the arrangement of other matters the Hospital might be more and more commended to public favour. If circumstances during the past year had kept him away from the Hospital, he was still glad even if it was only at the Annual Meeting, in connection with his friend Mr. Ash, to be of any service in auditing the accounts. With sincere good wishes for the prosperity of the Hospital he had much pleasure in seconding the resolution.

The resolution was put and carried.

Mr. HEPBURN proposed that Mr. Oakley Coles and Mr. R. B. Wilson be elected as Members of the Committee of Management in the room of Messrs. J. Tomes, W. R. Barker, and R. Parkinson, who, in accordance with the laws of the Hospital, retire by rotation. The names of the two gentlemen proposed were, he said, so well known as to require no comment from him to recommend them.

Mr. GREGSON seconded the motion, which was carried.

On the motion of Mr. DURLACHER, seconded by Mr. A. GIBBINGS, Mr. G. C. Ash and the Rev. G. B. Twining were re-elected auditors of the Institution.

Mr. SAUNDERS proposed that a vote of thanks be accorded to the Treasurer, the Chairman of the Committee of Management, the Medical Officers, Auditors, and the Hon. Secretary. In doing so he said these gentlemen were entitled to their very cordial thanks for the sacrifice of time they made for the service of the Institution and for the countenance they gave it. They were doubly indebted to the Treasurer for presiding at the Annual Meetings, which, he could assure them, was a considerable encouragement to the Committee in their labours.

SIR CHARLES MCGREGOR, Bart., in seconding the resolution, said he cordially assented to all that had been said by Mr. Saunders. He thought they were all exceedingly obliged to the Chairman, the Committee of Management, and the other gentlemen for their efforts put forth for the maintenance of such a valuable institution, which conferred so great a benefit, not only upon the Dental art, but especially upon the poorer classes, who would otherwise go with their sufferings unrelieved.

The vote was accorded by acclamation.

The CHAIRMAN, in response, said he was very happy to take part in a work of such real humanity. He had very seldom had a tooth ache himself, but he had a recollection that it was something very bad, and he thought an institution for the relief of people from that dreadful pain was worthy of more support than it received. He hoped that every year there would be an increase of patients, an increase of funds, an increase in the number of persons taking an interest in the work, and also in the number of those attending its meetings. He wished the Institution all prosperity. (Applause.)

The proceedings then terminated.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM FEBRUARY 1ST TO FEBRUARY 28TH, 1879.

Extractions	{ Children under 14	507
	{ Adults	705
Under Nitrous Oxide		206
Gold Stoppings		92
White Foil ditto		22
Plastic ditto		428
Irregularities of the Teeth treated mechanically		41
Miscellaneous Cases		284
Advice Cases		85

Total..... 2370

LAWRENCE READ,
Dental House-Surgeon.

British Journal of Dental Science.

LONDON, APRIL, 1879.

OWING to the severe illness of the Editor we are compelled to go to press without our usual article, but would draw the special attention of our readers to the thoughtful and practical article by Mr. John Dennant, of Brighton, on "Benevolence; its application to the present needs of the Dental Profession." We trust it may be the means of eliciting the expression of a variety of opinions on the subject, prior to our next issue.

Literary Notices and Selections.

HARD-RUBBER APPLIANCE FOR CONGENITAL CLEFT PALATE.*

By THOMAS GUNNING, M.D., New York.

ALEXANDER PETRONIUS, in his work entitled 'De Margo Gallico,' and Ambrose Paré, in his book on surgery, prove that efforts to relieve those suffering from defective palate, by applying obturators, were made over three centuries ago, and the records of the last fifty years alone show that the endeavours to supplement the congenital cleft palate have resulted in the invention of mechanical appliances which in number and variety are very remarkable; yet the "Report of the International Exhibition of 1876," in referring to the one now submitted, says: "This contrivance is a very marked improvement over all previous appliances to this distressing malformation." Now, that this simple remedy was not devised earlier is owing to mistaken views as to the movement of the muscles of the pharynx and palate, both in perfect and malformed conditions, and this, notwithstanding the investigation and study of these parts by the most distinguished physiologists and surgeons.

These mistakes will be pointed out in this paper, but the literature of this malformation is already so full, especially with the recent volume on 'Harelip and Cleft Palate,' by Mr. Francis Mason, F.R.C.S.,† that it is not necessary to notice all varieties of congenital cleft palate, nor need attention be given to the causes of this incomplete development in foetal structure.

Normal conditions will be considered first.

* This article appeared in the 'New York Medical Journal' for September, 1878, and was sent to us, with the blocks, for publication, but the extreme press of matter from the rapid course of important political events has obliged us to postpone it from month to month.

† Messrs J. and A. Churchill, New Burlington Street,

The *constrictor muscles* of the pharynx are said to be *inserted* into the posterior median raphe, which lies against the vertebral column, whereas they *arise* on that line; that is, they are fixed at this centre of the back of the pharynx, by which the inferior and middle constrictors, in deglutition, *relax* to allow the larynx and its support—the hyoid bone—to pass forward and open the way to the œsophagus.

The *superior constrictors*, which may be seen from the front of the mouth, after reaching the upper end of the raphe, are also prolonged by a fibrous aponeurosis to the basilar process of the occipital bone. They are thus firmly held up as well as back. These muscles, which form the upper part of the pharynx, pass off on each side to their insertions on the *pterygo-maxillary* ligament, &c. They thus inclose the tonsils, and the insertions of the muscles which arch down from the uvula.

The *superior constrictor* muscles, while thus firmly held at the back of the pharynx, and also at their terminations in front, where they join the attachment of the buccinators, which they resemble, are quite important, for they contract the fauces laterally and draw the tonsils and neighbouring parts in, or let them out, as necessary.

The hard palate gives support along its back margin to the velum or soft palate, which is seen curving downward and ending at the uvula, which gives insertion to a pair of small muscles—the *azygos uvulae*—which arise on the spine of the palate bone, and pass along the front of the velum.

The *levator palati* muscle comes forward and inward on each side over the concave border of the *superior constrictor* muscle, and spreads out in the upper surface of the velum, back of the aponeurosis of the *tensor palati*, which last comes down around the hamular process, and spreads out its aponeurosis to the centre of the velum and to the palate bone. The *tensores palati* make the velum tense; the *levatores palati* pull it up and back to shut off the nose, and the *azygos uvulae* muscles antagonise them.

The uvula is also the centre of two distinct arches, formed by two pairs of muscles, which are separated below by the tonsils. The anterior arch is formed by the *palato-glossi* muscles, which are inserted into the sides of the tongue. The posterior arch is formed by the *palato-pharyngei* muscles, which go down, one on each side, their anterior fibres being inserted into the thyroid cartilage, while others pass around the sides and back of the pharynx.

In deglutition the pillars of this arch swing around upon the surface of the *superior constrictors* with great rapidity, and come together behind, the *tensores palati* muscles and *palato-glossi* acting in concert to form the arched band which shuts down against the tongue to keep the food back. The *palato-pharyngei* then act in concert with the *azygos uvulae* to press the food down the pharynx.

The *palato-pharyngei* are not associated with the *palato-glossi* in constricting the isthmus of the fauces, nor does the *superior constrictor* act in deglutition, as supposed, its attachments making it impossible that it can press the food down the pharynx.

The form of the hard palate is such that the tongue can fit it around the inside of the teeth, as in the consonant *t*. The back of the tongue also fits against the soft palate and uvula exactly, and this closure can be maintained while the upper part of the soft palate shuts off the posterior nares. This is easily tested by pronouncing the consonant *k*, in which both the nose and mouth are shut off from the larynx, until the tongue leaves the palate to allow the vowel

sound to come out, when only the passage to the nose is kept shut. This double closure is made even in *kee*, in which sound the contact for *k* is on the hard palate, instead of being back on the soft palate as in *koo*. The point of the tongue goes up in *t*, the back of the tongue in *k*, and the lower lip also goes up to form *p*, the upper lip and the hard palate being passive, and the soft palate nearly so, outside of its great function in respect to voice, which is to shut off the nose cavity in all sounds of speech and song except those containing *m* or *n*. At rest, the velum leaves the passage from the nose to the larynx open.

The malformed palate will now be spoken of.

Congenital cleft may be limited to the uvula, or to the front of the hard palate, or it may occupy any part of or extend through both soft and hard palate, involving the front teeth and alveolar process up into the nostrils. In nearly all cases the soft palate is seen on each side. The back of the pharynx is exposed, and appears comparatively wide and flat, although each corner holds a vertical column of tissue, which in deglutition pass rapidly toward the centre of the pharynx along the surface of the constrictors, which are seen to draw strongly across; while the horizontal remnants of the soft palate at the same time narrow the mesial gap. These vertical columns are the posterior pillars of the soft palate, which being ununited are drawn up by the *levator palati* of each side; but the anterior fibres of these pillars, which go to the thyroid cartilage, are seen in place against the tonsils. Each half of the uvula is drawn slightly up by a slip which comes from the *levator*, but it draws very feebly upward, the parts, except in deglutition, tending toward the sides more than up and back. Mr. Fergusson's report of a dissection, made by him, of a cleft palate in 1844, states distinctly that the *superior constrictor* was very full, and he also claimed for the muscle very decided forward action in deglutition; and his statement has hitherto been accepted almost without question.

The back of the pharynx is, however, in full view when the soft palate is cleft, and more especially so when the opening extends through the hard palate, but I have never seen any special action in the *superior constrictor*, beyond that shown in normal conditions. In 1864 I had become convinced that the *superior constrictor* was incapable of any action which could prevent the use of a rigid appliance to supplement the cleft soft palate, and to the present time in no case has the hard-rubber palate failed to keep its place, to give entire satisfaction, and to improve the speech in a remarkable degree.

It is but justice to note that, judging from Mr. Mason's able work already referred to (p. 93), Sir William Fergusson's riper experience led to conclusions respecting the *superior constrictor* which are in accord with my own views, rather than with those expressed in his report of 1844.

Therefore, in brief, in view of the foregoing propositions: There being no forward action whatever of the superior constrictor muscles, a rigid plate can be worn without intermission, not only in comfort, but with improved condition of the mucous membrane, which is covered in, and of the general health, the nose being as free for breathing as in a normal condition of the parts; while the plate also enables the wearer to utilise the muscles of the cleft velum. The palate is easily made, and being of hard rubber does not deteriorate in the mouth. It is not supported by any part of the cleft, and may thus be worn from early childhood without injury to the parts, in fact its support may even lessen the cleft.

The plate, which is held up by the teeth against the hard roof of the mouth, extends up into the cleft and thence to the back of the pharynx near the tubercle of the atlas, the end being rounded to allow the sides of the pharynx to close in during the act of swallowing. This extension into the cleft being spread out over the soft parts on each side, the ununited muscles draw up against it and close off the nasal cavity. The vowel sounds are therefore preserved from the resonance of the nose by the natural action of the muscles, while the nasal sounds are used when necessary, and the tongue is able to form all the lingual consonants, the stiffness of the hard rubber affording the best possible substitute for the muscular firmness of the natural soft palate. To apply this palate, a simple impression of the hard palate and teeth, as is usually taken for the setting of artificial teeth, is quite sufficient, the extension into the soft palate being made by fitting the gutta-percha pattern to the parts without subjecting the patient to the annoyance of obtaining a plaster impression of these sensitive and mobile organs. This palate is consequently so simple that any accomplished Dentist can apply it, and the patient is therefore comparatively independent.

Early use of this artificial palate prevents unnatural action of the tongue, such as attempts to close the cleft with the tongue when

FIG. 1.

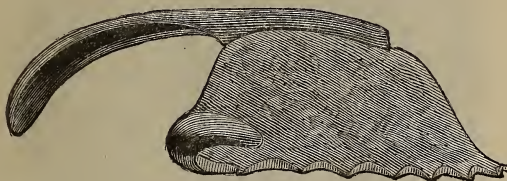
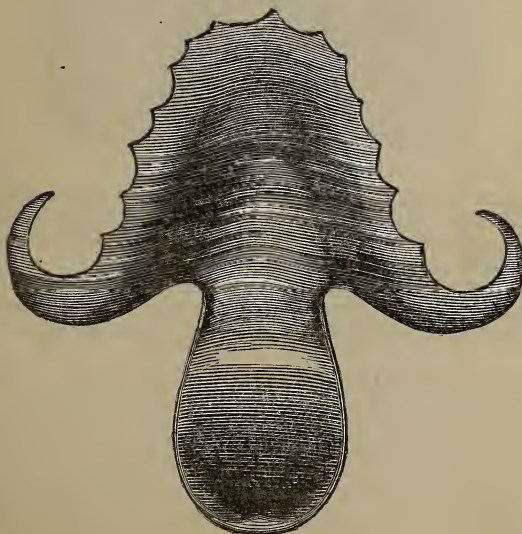


FIG. 2.



the latter should be free to act in articulation, whether in speaking or singing.

Fig. 1 gives the upper side view of an appliance for a case in which the cleft passes through the whole length of the soft palate, but does not reach the front teeth.

Fig 2 gives the lower front view of the plate shown in Fig. 1; when worn, the narrow part is covered on each side by the cleft soft palate, as in Fig. 4.

Fig. 3 was taken from the cast of a large cleft through both the hard and soft palate, in a patient twenty years old. The cleft in her lip had been closed in infancy; and attempts were made to close

FIG. 3.



the soft palate after the cast was taken, but the parts did not unite. The case is peculiar in the absence of the bicuspid teeth and the *central* incisor, there being only an irregularly-formed tooth on the mesial side of the canine instead of two incisors.

Fig. 4 shows the hard-rubber appliance as adjusted to remedy the deformity exhibited in Fig. 3, after the wisdom-teeth and the right central had been lost through decay and the malformed tooth removed.

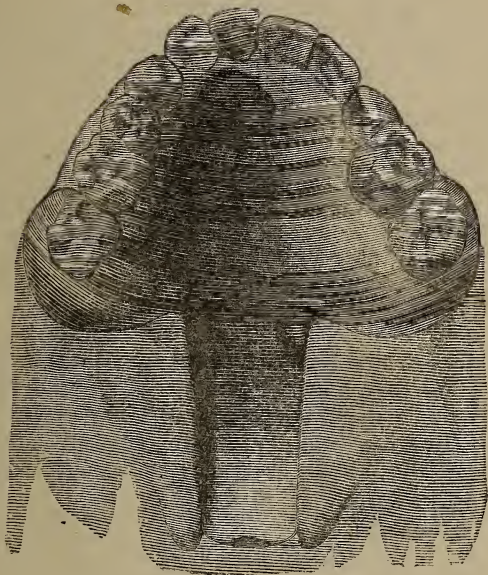
The cut was made from an impression of the plate *in situ* after it had been worn more than four years, day and night.

Deglutition is not interfered with by cleft of the palate in adults so much as articulation or speech. It was, however, necessary to explain the movements in the pharynx and soft palate in swallowing, in order to prove that they do not interfere with a rigid but properly-fitted appliance. Having shown that the constrictor muscles do not close upon the food, but that they relax to let the hyoid bone and

larynx go forward, and as these views are opposed to what is laid down, it is proper to show how the food gets into the stomach.

Liquids especially are drawn into the pharynx by suction, and also pressed back by the tongue; for solid food the pressure is proportionally increased. When the food has passed into the upper part of the pharynx, it is shut in by a band or welt, consisting of the forward portion of the soft palate, continued down the sides, by the anterior pillars. The upper portion is formed by the action of the *tensores palati* muscles drawing their aponeuroses tight, and the *palato-glossi* coming into action, and continuing the curve down on each side of the tongue, at the same time assisting to draw the

FIG. 4.



latter up against this arched band, or welt, by which the food is kept back.

It should be understood that the upper part of this welt is formed by the aponeuroses, at some distance in *front* of the *uvula*, so that the part of the soft palate behind the welt is left free. Through the middle of this the *azygos uvulæ* muscles pass to the uvula, in the centre of the back border or arch formed by the *palato-pharyngeus* curving down on each side, and known as the posterior pillars of the soft palate. These two pairs of muscles are now inactive, as the *levator palati* have drawn the soft palate up behind, and closed the passage to the posterior nares, while the food is shut in at the front, as before described. At the instant this is accomplished the *palato-pharyngei* act, and come together behind; the *levator palati* relax, and the *azygos uvulæ* muscles come strongly into action, and draw the uvula and the origins of the *palato-pharyngei* rapidly forward.

The *azygos uvulæ* muscles, which pass from the spine of the hard palate to the uvula, are at this time held *down* to the tongue by the

welt or band formed by the aponeuroses before mentioned, consequently they now in acting draw the origins of the *palato-pharyngei* forward, and down to the tongue; and as the insertions of these down muscles extend around the sides and back of the pharynx (crossing each other behind), they, in acting at this time, form a circular layer of muscular fibres, which converge from the circumference of the sides, and back of the pharynx, across to the insertion of the *azygos uvulæ* muscles. At this moment the muscles which arise on the inside of the chin draw the hyoid bone forcibly, the back part of the tongue is carried forward, and closes down over the epiglottis until the food falls into the œsophagus, the downward progress of the food being facilitated by the pressure of the atmosphere, which is let in by the drawing of the *azygos uvulæ* and the relaxation of the *levator palati* muscles, while muscles of the trunk co-operate and the food enters the stomach. It is shown that the *tensores palati* muscles and the *palato-glossi* act in concert to form the arched band which shuts down against the tongue, and that the *palato-pharyngei* are not associated with the *palato-glossi* in constricting the isthmus of the fauces.

The foregoing explanations show that every muscle of the soft palate is active in deglutition, and that the food is effectually controlled without unreasonable action on the part of any muscle such as that generally imputed to the superior constrictor, which cannot act in deglutition, as supposed, its attachments making it impossible that it can press the food down the pharynx.

On Loss of Weight, Blood-spitting, and Lung Disease. By HORACE DOBELL, M.D., &c., Consulting Physician to the Royal Hospital for Diseases of the Chest, &c. London, Churchill, 1878.

THERE has been a great deal of laborious work in compiling this book, and a large amount of knowledge stored up for future reference in a detailed manner.

A number of tables throughout show the analyses of the cases at a glance, giving the time when loss of weight, coughing, and hæmoptysis occurred. Table I, in the tuck on the book cover, is detached and can be spread out as a map for reference during the perusal of the work. This is advantageous, as it saves much time in turning the leaves. All the cases are carefully considered, and at the end of each case an able commentary is appended. The contents are divided into five parts with summaries, so that the reader can easily find that which he seeks. The rules and directions for diet are excellent, as also the treatment. The author lays much stress on the importance of pancreatic emulsion in wasting disease. The climatic treatment of consumption and its objects are well considered, also instructions as to the best places of resort. The ingenious hypotheses advanced will stand good until future discoveries disprove them.

Much of the matter in two former books on 'Consumption' by the same author has been reproduced in this work.

Dental News and Critical Reports.

GENERAL MEETING OF THE DENTAL PROFESSION.

WILLIS'S ROOMS, MARCH 3RD, 1879.

JOHN TOMES, Esq., F.R.S., in the Chair.

THE notice convening the meeting having been read as follows :

A general meeting of the Dental profession will be held in Willis's Rooms, King Street, St. James's, on Monday, March 3rd, 1879, at 4 o'clock p.m., for the purpose of receiving a preliminary report of the Dental Reform Committee, and a proposal in favour of the promotion of a permanent representative association.—JAMES SMITH TURNER, Hon. Sec. D.R.C.,

The CHAIRMAN called upon the Treasurer to render a statement of the manner in which the Dental Reform Committee had applied the funds entrusted to their charge.

MR. PARKINSON said—Since the formation of the Dental Reform Committee, the amount of subscriptions I have received is £568 18s. 6d., and the outlay during that period has been £353 16s. 6d., leaving a balance in my hands at the present time of about £215. I think, seeing the amount of good that has been done, you will consider the expenditure very small indeed. (Applause.) In fact, it would not have been anything like so small if it had not been for the great exertions of our friend Mr. Turner, in his endeavour to keep the expenses down. (Applause.)

MR. JAMES SMITH TURNER (the Hon. Sec. of the Dental Reform Committee) then read the following statement :

GENTLEMEN,—Under the constant pressure of an ever lengthening series of circumstances, each requiring immediate attention, the events of a not very remote past are liable to be driven out of our recollection, and the claims of those to whom we owe debts of gratitude unintentionally, but none the less fatally, forgotten. It is now three years since your committee was organised, through the exertions of Mr. Charles James Fox. (Applause.) Acting in council with certain leading men of the profession this gentleman, by a series of well-considered and admirably executed measures, was able to call the first meeting of the Dental Reform Committee for the 17th day of March, 1876. In the 'British Journal of Dental Science' for April of that year may be seen an

account of that gathering, and any one who reads it may reasonably say that the meeting might as well have been called by the name of Fox's Committee as by any other name. He it was who worked it up from a meeting of three or four gentlemen to its present dimensions; he it was who at the Manchester meeting suggested the initiation of a subscription to provide it with funds; and he it was who called it together for the first time. He refused to hold office in it, and shortly after its formation retired from it altogether, considering he could better serve the cause of Dental reform in the capacity of a journalist. From the original Committee were chosen a number of gentlemen to form a sub-Committee, or as it is now called, for facility of distinction, Executive Council. These were chosen more with a view to the representation of districts rather than particular towns, hence the existence of what has appeared to some an anomaly in the representation of large towns on the Council. The truth is that the residence of any member being in a large town was a matter of accident, and not arrangement so far as the formation of the Executive Council was concerned.

The frequency with which many of these gentlemen have come time after time from long distances, to attend the meetings in London, calls for special remark. Residents in such towns as Stockport, Manchester, Brighton, Preston, Birmingham, and Dublin, have been throughout almost constant attendants. But neither the members of the Council nor the Committee limited their exertions to attending meetings, they were ever ready to work in their different localities for the furtherance of our common object, and in the name of our President I take this opportunity to thank them for their valuable help. Shortly after the formation of the Committee, Dental reform was threatened with severe difficulties. Owing to the adoption of certain resolutions by the majority of the Committee, their then president and several members considered it their duty to resign office, but though retiring from active participation in the coming struggle, those gentlemen among them whose names had the greatest influence, and whose social and professional position gave them the greatest power, never sought to impede the progress of our work. At this juncture, the improved health of Mr. Tomes enabled him to accept the Presidential Chair, a position which Mr. Fox in his Manchester address had announced Mr. Tomes was willing to accept. Mr. Underwood was appointed deputy chairman, and the vacancies in the ranks were immediately filled up. Since the first meeting the Committee and Council have met from

time to time according to necessity, with what results our President will best inform you. In the course of events we found that we had no available list of Dentists in practice throughout the United Kingdom; we therefore applied to Messrs. Ash and Sons for help, and they immediately placed their list, containing about 2000 names, and their whole clerical staff at our disposal. We were thereby enabled to present to Parliament a petition signed by nearly 1200 Dental practitioners, a petition which was highly valued by the promoters of the Bill in the House of Commons. Since that time I have learned that Messrs. Ash valued their list at several hundreds of pounds, and although they well knew that if we succeeded in getting registration it would become patent to all, yet they acted as I have stated. On behalf of the Dental Reform Committee, and I think I may venture to say on behalf of the whole profession, I thus publicly thank them for their generosity. Your Committee has work before it still; if the same unanimity of effort and of purpose prevail in the future as they have done in the past, and if the same confidence be extended towards us, the results of future efforts cannot be doubtful. (Applause.)

The CHAIRMAN, who was received with protracted cheering, said,—Gentlemen, this meeting has been called for the purpose of laying before the members of the Dental profession, who supported Dental reform by subscription, by petitions to Parliament, and otherwise, a preliminary report of the proceedings of the Dental Reform Committee, and at the same time to propose to the meeting that steps should be now taken to form a permanent representative Dental Association. By no other means than by inviting all, could an invitation be conveyed to each of those who interested themselves in the furtherance of the Dental Bill, and who are now interested in the successful administration of the Dentists Act. But the report need not be a long one, for success is soon told, requiring but little explanation or excuse, and the interest lies rather in the result than in the pains taken in its production.

It will be remembered that a meeting of the members of the Dental profession was held at Manchester in August, 1875, to which all could have gone, and to which very many were personally invited. Mr. Charles James Fox presided, and the profession is greatly indebted to him for the able manner in which in his address he set forth the aims and objects of the meeting, and for the success with which he conducted the business of the meeting. (Loud applause.) He went armed with the support of many well-known names, and he returned to receive their thanks for the manner in which he

had expounded their opinions, and had seen them carried into effect in the resolutions unanimously adopted. The resolutions were as follows :

1. "That it is desirable that a Committee be formed to see what steps can be taken to arrest the continual influx into the profession of illegitimate practitioners by the adoption of the principles of Registration and Compulsory Education."

2. "That Mr. Fox, as editor of the 'British Journal of Dental Science,' be requested to take steps to secure the formation of a Committee upon the plan suggested in the leading article of the Journal published August, 1875."

3. "That a subscription list be opened to defray the expenses of such a Committee in making an appeal to Parliament next session, if possible, on the subject."

I should like to direct the attention of the meeting for a moment to the character of those resolutions. They told in general terms the objects to be gained, authorised the formation of a Committee for the conduct of the business, and by subscription provided the pecuniary means. But the meeting did not embarrass the action of the Committee by the imposition of any details whatever, not even in the formation of the Committee. Mr. Fox was entrusted on the fully understood condition that it should be representative of the profession, and the chairman promised and faithfully fulfilled that promise that he would "do his utmost to carry out their wishes and secure a fair representation of the country on the Committee, and he felt that in this he should have the entire co-operation of his London colleagues."

I believe that the full trust reposed in the formation of the Committee and in the Committee when formed contributed greatly to the success with which the business of that Committee has been conducted. On the other hand, had the Manchester meeting entered into details, and imposed a series of restrictions on the action of the Committee, I believe no useful result would have been gained. The end would have been lost by the imposition of conditions and means which on trial would have almost certainly been found inadequate or inappropriate.

It will not be necessary for me to allude to the proceedings of the various meetings held by the Dental Reform Committee, for they were reported in full from the first in the 'British Journal of Dental Science' from the notes of its own reporter, and lately in abstract in the 'Monthly Review of Dental Surgery.' But I may state that in the summer of

1877 the Committee had fully elaborated a series of resolutions, which were placed in the hands of our Parliamentary draughtsman, Mr. Fitzgerald, and the draft Bill embodying the resolutions was in the hands of the Committee in September. Copies of the draft Bill were submitted to the several surgical corporations of the United Kingdom, and their opinions solicited thereon. From the Royal College of Surgeons of England an unqualified approval was received, from Ireland and from Glasgow came a suggested amendment, and from Edinburgh several. These were in part accepted.

Copies of the amended draft Bill were forwarded to the Medical Council and to the individual members of the Council, but, as no general meeting of the Council took place till some months later, the opinions of individual members could for the present alone be obtained. To have waited for the collective opinion would have been to abandon all chance of passing the Bill in the Parliamentary Session of 1878.

The Bill was introduced in the House of Commons by Sir John Lubbock, with whom was associated Sir Philip M. Egerton and Mr. G. B. Gregory, and read the first time on January 30th.

On the second reading, which took place March 19th, Lord Sandon, speaking on behalf of the Government, expressed his approval of the general principles of the Bill, but in giving his support said, "We must reserve to ourselves great freedom to introduce such alterations in Committee as we may think fit." It was ultimately arranged that the amendments contemplated by the Government should be introduced on the Bill reaching the House of Lords. Such of the Chemists and Druggists who were in the habit of practising Dentistry claimed through their associations the right to be registered under the Dentists' Bill as Dentists, and the claim could not be justly resisted. For half a century ago vast numbers of medical practitioners kept open chemists' shops, and even now the practice is not wholly discontinued. And that which the medical practitioner did, and still can do, and sometimes does do, could not be denied to the existing Dentist. On these grounds Sir John Lubbock assented to the introduction of the word "pharmacy" in Section 6 (c), on the Bill going into Committee. At the same time words were introduced exempting qualified medical practitioners from the operation of Section 3, which in effect do little more than strengthen the terminal phrase of Section 5; and the clause relating to students was widened at the request of Mr. Mundella. The privilege, if accepted at the cost of

professional competence, will prove to be but a sorry advantage to the few students to whom it may be available.

The principles of the Bill were in no respect changed by the foregoing amendments.

With these additions the Bill received its third reading, and passed the House of Commons on June 30th, and with it passed from the Dental Reform Committee a very heavy and anxious responsibility.

I need not recount the endless work and weary watching which those must endure, without flinching, who undertake to see a Bill through the House of Commons. To the minds of all who know how arduous is the task accepted by a private member who undertakes the conduct of a Bill, the sense of sincere gratitude will arise when the name of Sir John Lubbock is seen or heard. (Applause.) The time which has been spent in the consideration of a Bill cannot be estimated by the length of its reported discussion; measures are informally discussed in the lobby, the library, the dining-room, and smoke-room of the House, and the fate of a bill is often determined before it comes on for second reading. I have heard an old and influential member say that more legislation goes on in the precincts of the Council Chamber than in the Chamber itself. The intelligent well-wisher for the cultivation of our useful profession will not, indeed cannot, overrate his obligation to the distinguished member for Maidstone.

The Marquis of Lansdowne kindly undertook the conduct of the Bill in the House of Lords. When in Committee the amendments proposed by the Government were introduced, and the Bill passed the Upper House on July 5th.

Amended the Bill was returned to the House of Commons, and was passed without further change.

The additions and changes the Bill received in the Upper House in no way altered its principles or lessened its power. It was originally drawn on the lines of the Medical Act of 1858, and the amendments were introduced in order to render it conformable with the Medical Bill introduced by the Lord President. As it now stands it can be worked successfully with the Medical Act of 1858, or with any such Act as the one embodied in the Bill before Parliament last session and now again under consideration. The amendments consisted in the provision of a more perfect machinery for working the Act than the Act of 1858, taken as a standard or guide, justified us in providing; and it may also be stated that the substance of the amendments formed an integral portion of the Government Medical Bill as it stood after it had received the approval of the Medical Council. These clauses had

special reference to the Dental section of the Bill, which, after recommending the substitution of several of its clauses by a clause, or the substance of a clause, from Sir John Lubbock's Bill, the Council approved, and in so doing to all intents and purposes approved the Dental Bill, between which and the amended Dental section of the Lord President's Bill there was no material difference.

The following resolutions passed by the Medical Council April 13th, 1878 (when our Bill was before Parliament), attest the accuracy of my statement and refute the allegation that the registration of Dentists and the supervision of their education was thrust upon rather than deliberately accepted by the Medical Council :

"That it is desirable that provision should be made in the ' Medical Act (1858) Amendment Bill ' for the registration of Dentists."

"That it is not desirable that the Medical Council should be required to undertake to originate a new Scheme of Examination — Rules—sub-Clause (1) of Clause 23—but that it should be entrusted with some such supervisory power as regards the educational details from time to time proposed by the Medical Authorities authorised in the Duke of Richmond's Bill as it already exercises with regard to other examinations " (in other words the substance of Clauses 18 and 19 of Sir John Lubbock's Bill).

"That the Council approves the portion of the Bill that relates to the Registration of Dentists."

"That the Council suggests the adoption of Clause 11 of Sir John Lubbock's Bill, instead of sub-Clause (5) of Clause 23 of the Government Bill."

I need not occupy the time of the meeting with any lengthened criticism of the Act, for it is probable that most of those present know its provision quite well; but to two or three of its principal features I may draw the attention of the meeting. The foremost, and by far the most valuable, feature in the Dentists Act is the provisions for the sufficient education of our professional successors. It places them in a professional position, firmly supported by a known standard of education. Professional competence is necessary to the individual respectability of the practitioner—I might say, to his professional honesty—for all must, to secure practice, profess to be competent. In a word, the Act, if rightly administered, protects our followers by means of a fitting education from the curse of incompetence. The second great feature is the provision of an Official Register, in which will be published

the names of existing *bonâ fide* practitioners, with a statement of their professional qualifications or grounds of registration. If I may use the term, it takes stock once for all of existing practitioners, and for the future allows registration to those only who have been educated in accordance with its provisions.

Up to August next any person may register on making (in writing) a solemn declaration in the presence of a witness to the effect that he was in *bonâ fide* practice before July 22nd, 1878, separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy; but his name may be removed if it should appear that the truth of his carefully preserved declaration cannot be supported; and the Act provides a tribunal for the investigation of doubtful cases—a provision introduced by the Government for the ready elimination from the register of incorrect or fraudulent entries.

Unfortunately there are no known means of preventing error or fraud; the most that can be done is, on detection, to correct the one and punish the other; and the Act provides full means for action in either case. It will be the duty of those who know of error or fraud to furnish such information as may lead to the correction of either the one or the other. The Dental Committee of the Medical Council is a professional tribunal before which disputed cases must be brought for investigation, and its decision will be final as to the facts of the cases investigated.

The provision of a committee for the sole purpose of correcting the register, and the registration of certain colonial, and foreign qualifications, are the only really new features in the Dentists Act. Its other provisions are similar in effect to those of the Apothecaries Act of 1815, taken with the Medical Act of 1858, the Solicitors' Acts, and the several Pharmacy Acts. They provided for the registration of existing and the compulsory education and registration of future practitioners.

I may conclude my list of gains by mentioning the provision for the registration of properly qualified colonial and foreign Dentists, the exemption of registered Dentists from serving on juries, and the power to recover professional fees. But let it be remembered that registration is the only valid testimony. Unless the name is in the Register or the Medical Register the possessor of a diploma or registration certificate can claim no exemptions or even the right to call himself a Dentist.

The Register is for the information of the public and of the profession, and a copy of each annual issue will, I believe, be sent to every law court, great and small, throughout the

United Kingdom. A copy should be in every Dentist's hands so soon as it is published, for the authenticity of a past is destroyed by a new edition. In the intervals of annual publication new names will have been added, and old ones will have been struck off by death or erasure.

The members of the Dental Reform Committee may, I think, claim to have so far discharged the duties they undertook. They have procured registration and compulsory education and other not inconsiderable advantages. There may, however, be some few who, hard to please, will say that we claim unmerited credit, that the Act is not sufficiently restrictive, in other words, that it allows persons to be placed upon the Register who have no right to be there. I do but use the words of a person more competent to speak upon this question than I or any person here present when I say, that our legislature is always very tender in dealing with existing interests where new restrictions are introduced, and we could not have carried any Bill not allowing persons in *bonâ fide* practice to be registered. These are the words of a competent authority. It may be asked what constitutes *bonâ fide* practice? It would be useless to cite a series of paraphrases. I will refer you to the words of the Act, sections 15 and 13.

13. "The General Council shall cause to be erased from the Dentists register any entry which has been incorrectly or fraudulently made."

15. "The General Council shall for the purpose of exercising in any case the powers of erasing from and of restoring to the Dentists register the name of a person or an entry, ascertain the facts of such case by a committee of their own body, not exceeding five in number, of whom the quorum shall be not less than three, and a report of the Committee shall be conclusive as to the facts for the purpose of the exercise of the said powers by the General Council.

"The General Council shall from time to time appoint and shall always maintain a committee for the purposes of this section, and subject to the provisions of this section may from time to time determine the constitution, and the number and tenure of office of the members, of the committee.

"The Committee from time to time shall meet for the despatch of business, and subject to the provisions of this section, and of any regulations from time to time made by the General Council, may regulate the summoning, notice, place, management, and adjournment of such meetings, the appointment of a chairman,

the mode of deciding questions, and generally the transaction and management of business, including the quorum, and if there is a quorum the committee may act notwithstanding any vacancy in their body. In the case of any vacancy the committee may appoint a member of the General Council to fill the vacancy until the next meeting of that Council.

“A committee under this section may, for the purpose of the execution of their duties under this Act, employ at the expense of the Council such legal or other assessor or assistants as the committee think necessary or proper.”

Clearly each doubtful case must be judged upon its own merits, and the Dental Committee of the Medical Council is made competent to form conclusive judgments upon the facts of the cases submitted for its consideration. The Committee has been created, and is to be maintained, for no other purpose.

It would be impossible to frame clauses which would accurately describe every possible case and certainly shut out all unjust and admit all just claimants for registration. Acts state general principles. In the application of a new Act there will always be a residuum of doubtful cases, and the merits of these have to be determined by tribunals competent to apply the principles laid down to the individual cases, and each determined case becomes a precedent for the similar determination of similar cases. We have not yet learned how to make automatic laws. Laws must be worked at the instance of those who are interested in their provisions, the Dentists gained and must uphold the Dentists Act. If inquiry be made it will be found that all initial registrations are the subjects of abuse. In order to ensure the admittance of all just claimants some improper persons will rush in at the open door; but time brings a sure remedy. After August next the door will be firmly closed to all but licentiates in Dental Surgery, and the unqualified will by degrees disappear from the list.

To return to the more immediate question. So soon as the registration of existing practitioners is completed, and the Register published, this Committee will, I presume, be dissolved, and there is no reason, so far as I know, to suppose that it will survive the present year.

To have narrated all that has been done, and to have acknowledged all the obligations we have accepted, would have occupied more hours than we have minutes at our disposal. I have already mentioned several names; to these must be added Mr. David Hepburn, Mr. Bowman Macleod,

of Edinburgh, Mr. Brownlie, of Glasgow, and Dr. Merryweather, of Sheffield, each of whom has rendered very important services, involving great personal trouble and a large expenditure of time. And the draughtsman of the Act, Mr. Fitzgerald, may not be forgotten. There is one other name that I must in common justice mention, that of our Hon. Sec. Mr. Turner (loud applause), whose services on behalf of our profession, few save myself can justly estimate. With rare unselfishness he has given his time and his strength to our cause. Under the guidance of a clear mind and a strong will he has personally done an amount of work which many might have begun but few could have completed. He has given both day and night to our cause, and rather than trust to paid assistance he has more than once strained his strength almost to the breaking point. Truly, we could not have done without him. The greatest compliment I can pay to Mr. Turner is that I mean fully and wholly to the very letter all I have said respecting him. (Applause.)

At this point my report might end, but the members of the Committee feel that there is yet useful work to be done, which for the present lies beyond their powers. The existing and coming practitioner is provided for, but there is a class for which no provision has been made—the needy, sick, and infirm; those who from illness, accident, or old age are no longer able to provide for themselves and dependants. In all other professions some provision is made and dispensed through an organised and responsible body, and surely it should be so in ours.

Again, it is felt that now, as a consolidated profession, we have both duties to discharge and interests to protect, and that we should leave in our stead a representative association similar in constitution to this committee, which could and should watch over, and, so far as may be, protect the interests of the Dental profession on behalf of the public and of the profession itself.

It would be better that such a body should inquire into alleged abuses of the law rather than that it should be left for private individuals to bring them before the notice of the Medical Council. Such is the course pursued by the Incorporated Law Society and the Pharmaceutical Society. The plan is sanctioned by usage and recommended by experience. Prosecutions under the Act, it will be remembered, may be instituted by a medical authority, but the consent of the General or of a Branch Council must be obtained to a prosecution instituted by a private individual or association (Section 4).

“A prosecution for any of the offences above in this Act mentioned shall not be instituted by a private person, except with the consent of the General Council or of a branch council, but may be instituted by the General Council, by a branch council, or by a medical authority, if such Council or authority think fit.”

In addition to the two duties, for the discharge of which, we think, provision should be now made, it is also thought, in the interests of good feeling and for the encouragement of a more extended personal knowledge and acquaintance among the members of the profession, that an annual meeting should be held—sometimes in London, sometimes in one or other of the large cities of the United Kingdom. We have as examples the British Association, the British Medical Association, the Law Society, and the Pharmaceutical Association. We may profit by their experience in organising our meetings, and we can follow their example in electing annually a president, whose first duty shall be the delivery of an address upon professional subjects.

I need not enter into further details, as there are members present who are prepared to make distinct propositions to the meeting in favour of the adoption of some such course as the one I have briefly indicated, and to support the proposals by statements which, to my mind, are conclusive.

Should the meeting see fit to adopt the course recommended, I may venture upon the opinion that the experience of the past three years renders the members of the Dental Reform Committee competent to elaborate the details necessary to the formation of the proposed organisation, and that they will, as heretofore, do their best to discharge the duty they, on consideration, accept. At the same time I must remind the meeting that, in addition to moral support, adequate pecuniary means must also be supplied by the profession. (Cheers.)

MR. TURNER said he had received letters from about 120 gentlemen, all having expressed entire sympathy with the object of the meeting and their willingness to support it, and regretting their inability to attend on that occasion.

DR. W. H. WAITE (Liverpool) said—Mr. Chairman and Gentlemen, after the very masterly address to which we have all listened with so much interest, I should feel some diffidence in coming before you to fulfil the duty that has been allotted to me, but I am fortunately about to read a resolution which requires no recommendation in order to secure your cordial acceptance. The resolution is “That this meeting desires to record its grateful sense of the valuable results achieved by the Dental Reform Committee, and while declar-

ing unabated confidence in the Committee collectively, would pay a special tribute to the wisdom and assiduity displayed by the President, John Tomes, Esq., and the Secretary, James Smith Turner, Esq., throughout the arduous and difficult duties connected with the passing of the Dentists Act; and this meeting further presents its best thanks to Mr. Tomes for the very admirable address he has just delivered." (Applause.) I am naturally averse to anything like personal laudation, and I shall therefore not attempt to formulate the thoughts which I know have been passing through all our minds while listening to your address; but this much I will say, that not only by the very concise and valuable report you have given to us, but by your very presence in the chair here to-day, you have made a notable addition to the long list of inestimable services rendered to our profession during the past forty years. (Applause.) It gives me great pleasure to have the opportunity of expressing my own grateful appreciation of the labours of the Dental Reform Committee. I remember very well the first meeting that was held in Manchester, to which reference has already been made, in August, 1875. I remember, as we all do, the chaotic condition of our profession at that period; so hopeless and helpless was our plight, apparently, that some of us were ready to clutch at anything that offered the smallest prospect of relief. At that time we were a body without a head, a sort of irregular mob without recognised leaders, a conglomeration of molecules, shall I say, without any centripetal or conservating force, and Paddy's maxim, "every man for himself," would aptly describe our then condition. Beside this, the opportunities of improvement were at any rate limited and restricted. Those who were so fortunate as to reside in the metropolis or within easy reach of it, might, if so disposed, enjoy many advantages, but for the rest the opportunities of advancement or recognition were very limited. Well, sir, three years and a half have wrought a marvellous change. We are now a legally recognised profession, endowed by the legislature with rights and privileges that are favorable to the exercise of our calling, and contributive thereby to the good of the commonwealth. We have secured to the public a guarantee that after a certain date no man shall be at liberty to assume the function of a Dental surgeon until he has undergone such a training and obtained such a certificate as may fairly entitle him to have public confidence. We have multiplied the facilities of education threefold, and the prospect of legally obtaining a recognised qualification has now come within the reach of every reputable practitioner in Great Britain. I rejoice to think

that so much has been accomplished, and when I consider what has occurred since that month of August, 1875, really I am astonished at the metamorphosis, and I want this meeting to join with me in bearing testimony to the fact that for the major part of this transformation we are entirely indebted to the faithful and untiring labours of the Dental Reform Committee. (Applause.) And now, if you will allow me for one moment to anticipate the proceedings which are to follow, I should like to say that there is something still wanting to complete the work already begun. Mr. Tomes has told us of a proposition to form an association. I think it is of the first importance that that association should be thoroughly representative, so that it may serve as a recognised head of the profession.

That seems to me to be *the* point upon which the whole importance of this meeting hinges. The profession, I think, will recognise and loyally follow a head that is truly representative and really capable. Such a head could and would undertake to guard our interests and the interest of the public; for, sir, I hold that the two interests are identical (hear, hear), and it would also set on foot those benevolent and auxiliary agencies, without which no association would be complete. I have been very much delighted to hear that the formation of a benevolent fund constitutes an important feature in the proposals which are to be submitted to you. Now, nothing can be more natural than that the Dental Reform Committee should form the nucleus of this new association, but it must be augmented in order that it may become thoroughly representative; the questions of management, membership, meetings, places of meetings, and so on, are of great importance, and we shall await with interest the details which, I have no doubt, the Executive Council have already wisely considered. Everything of success in such an enterprise depends upon the wisdom and care with which the details are framed and carried out. As to the abstract proposition, that an association shall be formed, there cannot, I should think, be any difference of opinion. When we look around at the other professions, and specially that to which we are so nearly allied, the enormous advantages obtained through the medium of such an organisation are too obvious for recapitulation. Depend upon it, sir, if we are to make good our claim to be ranked among the liberal and learned professions, we must cultivate a professional *esprit de corps*, we must provide for the free interchange of thought and opinion upon scientific and practical questions, in other words, we must exhibit life, and energy, and generous consideration for each other. I rejoice with all

my heart that some of the hindrances to a perfect unity have melted away; I rejoice to believe we are on the threshold of a glorious future, wherein past jealousies and rivalries and restrictions will be all forgotten in a hearty and united effort to weld us all together into a solid and compact body of educated men. I hope the watchword of the proposed association will be that our profession shall become *second to none*. By careful research and ready application of all the facts and discoveries which science is constantly pouring forth, let us be second to none in ministering to the needs of humanity. By diligent culture, not only in our own department, but in all collateral and subservient studies, let us be *second to none* in the class of men whom we train for our speciality. By wise legislation and prudent provision let us be second to none in the facilities afforded for mutual improvement, and last, but not least, by constant exercise of a true and discriminating charity, let us be second to none in the large-hearted generosity with which we recognise the bond that unites in a common sympathy; *second to none* in the willingness of our response to those claims that nature, religion, and all mankind hold binding, claims which, on the highest authority, constitute the very essence of "pure and undefiled religion," viz. "to visit and provide for the fatherless and widows in their affliction." In proportion as we cultivate this spirit of fraternal regard and obligation, just so will our differences disappear, and we shall the more rapidly succeed in obtaining that which we all most truly desire, the unification and consolidation of the Dental profession. (Applause.)

Dr. WALKER.—Mr. President and Gentlemen, it affords me great pleasure to second this resolution. I esteem your president as one of my oldest friends. The resolution states that we owe a great sense of gratitude to the labours of the Dental Reform Committee. I am quite sure Mr. Tomes will agree with me that he also owes very much to the members of the Dental Reform Committee, for it is not his labour only, but the labour of every individual member of that Committee which has resulted in bringing about such a satisfactory change in our profession. It is they who have worked in committee and out of committee; in fact, I believe we have all worked indirectly—all those who have had any influence to benefit their profession, I believe, have worked if they wished it well. Mr. Tomes, as an individual, has worked since 1839. In that year he graduated as an undergraduate of the University of London; he then studied at the Middlesex Hospital, and for twenty years he, practising as a Dental surgeon only, refused to go to the College of Sur-

geons to be examined simply as a surgeon. Such an example as that must by-and-bye tend to prove what a *bonâ fide* man means. There are two incidents in the life of our president on which we must congratulate him. I think there is no man in London who possesses such a history as this—that he was a member of the College of Surgeons one year and an examiner the next. Mr. Tomes' membership is dated in 1859, and in 1860 he sat as one of the Board of Dental examiners. I met Mr. Tomes last year in Edinburgh; he then hoped we should get a Bill next year. He has got it, so that there is a second incident that must be a source of great pleasure to him and to us all. But he intends to go on, gentlemen. We have not lost the work of Mr. Tomes yet; he still hopes to see this Bill thoroughly carried out. We hope, I believe, to appoint a permanent committee to-day with your help, and if we can appoint such a working committee as the Dental Reform Committee we shall be in perfectly safe hands. I should just like to tell you what I consider to be the description of a *bonâ fide* Dentist. The University of London throws open its doors widely; it does not matter how, when, or where you get your information, but information you must have, and if you present yourself as a candidate for examination at the University of London you must be a *bonâ fide* candidate; that is, you must have knowledge to back it up, and the result must be proved in your written papers. So, I believe, a *bonâ fide* Dentist must possess knowledge equal to the occasion, and the proof, instead of being written on the paper, must consist in this, in his having practised successfully as a pure Dental surgeon. It is with great pleasure I second this resolution. (Applause.)

The resolution was carried by acclamation.

The CHAIRMAN.—On behalf of the Dental Reform Committee I return you the most sincere thanks, I may say, of every individual member of that Committee. I am sure that your acknowledgment of the work they have done, and the manner in which they have done it, will be received by them as a matter of great congratulation. Having attended almost every meeting of that Committee, I can say that no amount of trouble has been spared by those who were present, and also by those members who could not attend, for there are several members of the Committee who have not attended a single meeting, and yet whose services have been of such a nature that we should not have been able to do without them. They have worked hard and well, not only once, twice, or thrice, not only for one day but for one month, or two, or three. On my own part, for the kindly opinion that you have expressed of me I thank you sincerely.

I can scarcely think I have deserved so much, but, at the same time, I am very pleased to accept the good opinion of my professional friends, for I believe the members of our own profession are those who can best judge of the conduct of its members, not only of professional, but also of general conduct. (Applause.)

Mr. E. SAUNDERS.—Mr. Chairman and Gentlemen, I have the pleasure to move the first resolution, which is "That a Society be now established under the title of the British Dental Association, whose object shall be to watch over and further the general interests of the profession with especial reference to the proper carrying out of the provisions and spirit of the Dentists Act of 1878, and with full authority to organise special committees for the establishment and administration of a Dental Benevolent Fund for the assistance of infirm and disabled members of the profession, to be supported by members' special subscriptions, and for any other object that may appear desirable." After the very full and lucid statement with which our chairman favoured us, and especially after the eloquent comment upon that statement by Mr. Waite, it will not be necessary for me to detain you long in making observations with the object of commending this resolution to your favorable acceptance. While we were listening to that statement I think we all felt conscious of two conclusions coming home to our minds with all the force of settled conviction; first, that much care and watchfulness are and will be required to carry out the provisions of the Dentists Act, and, secondly, that this duty, difficult and delicate as it may be, could not be confided to better hands than those of the Executive Council of the Dental Reform Committee, to whose untiring labours it is owing that we are this day in possession of that Act. With the prosecution of their labours they must have gained an amount of experience of the desires and opinions of members of the profession both in town and country, and must have opened up channels of communication which must be invaluable in carrying out the intentions of the Legislature in our behalf, and which could not be expected to be in the possession of another and newly elected committee. Even if the statistics of our profession had remained unaltered such circumspection would have been required; how much more necessary is it when we find ourselves unexpectedly face to face with such an increase as to double, or, I believe, more than double our numbers. Our case bears some analogy to what we see enacted on a grander scale, and in a larger theatre. We have been engaged in "rectifying" our frontier and in securing a "scientific frontier," we are con-

fronted with "annexation" on a scale and to an extent which we neither expected nor, shall I add, desired. (Applause.) New acquisitions bring with them new responsibilities, and the necessity for some such organisation as is shadowed forth in this resolution, and of which the details have yet to be determined, appears most urgent.

Mr. H. BARRETT.—Mr. Chairman and Gentlemen, I rise to second the resolution proposed by our President of the Odontological Society. Gentlemen, we are all acquainted with some of the results of the Dental Act of 1878. How, on the one hand, it gave us vastly increased powers, on the other, it brought to the surface those whose names had not been hitherto known to fame, and some few known only to be avoided. Well may many have felt dismayed at reading this roll call of the veriest ragged regiment reviewed by Falstaff, so that it became the opinion of some that serious injury had resulted. Persons without any preliminary education, by the simple payment of £2, to be admitted to some of the advantages obtained by others only on the possession of qualifications, the result of much cost and labour. These pariahs, if the term may be applied to some who have registered, and to appear on a public list side by side with those whose whole life has been spent in obtaining and preserving their high professional status, presented at first sight a very serious aspect. But let us for a moment consider the position. Is the pariah injured by this contact with respectability? No and Yes. More or less amenable to the influence which contact with the good produces, even he must be modified and by degrees will be content to forego perhaps some of his bad practice (although remunerative) to follow that which appears to him at last as the better. Certainly we may look to him to educate his *progeny*, for this is the inevitable result of the imperfectly educated parent, under such influence. Will the respectable practitioner suffer in his professional status? No, for the more we raise the position of the lower extremity, the higher opinion will the public form of the Dentist's profession generally; we must remember the weakest link governs the strength of the whole chain. Will he suffer from a plethora of Dentists by diminishing the quantity of work for each? Certainly not whilst the population of the British Empire numbers thirty and a half millions, and nature continues to allot about fifty-two teeth during the lifetime of each. To obtain recognition by the State, it was imperative, as you have heard, that this very liberal admission to the register should be conceded, and in compelling this the law-makers shewed a far sightedness not belonging to members of our own profession. Upon the subject of the English

Dental Diploma I would add a few remarks, because it is one on which I may be allowed to speak with some authority. From the period of my connection with the Examining Board of the Royal College of Surgeons, it has been a source of infinite pleasure to me to watch the effect which our educational curriculum is producing. The very superior mental qualifications shown upon examination to be possessed by many candidates for the Dental diploma give convincing proof that the labours of those who brought about the educational measure, now some years since, have been and continue to be attended with the highest results to our profession. I may further add that within a short period, the Examining Board most willingly accepted the suggestions of that thoughtful working body always existing among us, and have added to the curriculum of the young student a primary examination and to the finished student a practical examination in Dentistry. Why do I detain you to speak of these matters which may already be familiar to many? Simply to show you that we are not reposing on our oars; that we are not satisfied with what has been already done, but are striving by degrees, and by beginning at the right end, to educate upwards, and thus raise the standard of our profession. May I now ask you whether the men who advocated and have carried out this mode of procedure are not those to whom you can entrust the future interests of the profession. Already a deep feeling of interest is taken in our politics by influential members of the Medical Council, and by such connection we gain strength and recognition, but this connecting interest is gained only by the fact that we are represented by men of influence in our own profession, and who entertain liberal and practical views. The society which it is now proposed should be established "to watch over and further the general interests of the profession" will not be a secret society. Although it is advisable that those who have already made themselves acquainted with the requirements and provisions of the Act, should remain in office for a time until the whole is in working order; yet the society will be a representative one; so that all shades of opinion may be fairly and fully discussed, and its measures will be brought before the profession at large. With this end in view it is necessary to have the unanimous support of those present on this occasion, for on no occasion more than the present will unity give strength and valued support to the hands of those who labour for us. One word with reference to the formation of the Dental Benevolent Fund, referred to in the resolution, the object of which must be clear to all. How often has it occurred to

many to feel upon what a slender thread does our professional career hang. How fickle is fortune! After every exertion on the part of some for years even a moderate competence is barely obtained, and upon how slight an accident to eye or hand, or even finger, may the professional prospects of a life be ruined, irretrievably, and from no controllable cause. Should we not then call on our more fortunate brethren to organise a fund which may at least serve to moderate if not entirely to relieve the misfortunes of such. Gentlemen, we do differ materially in opinion on many subjects, and sometimes express very energetically those differences. Very strong animosities are too often shown and some professional jealousies. What profession can claim to be exempt from these defects? But I am fully satisfied that, with all these failings, there is no profession in which exists amongst its members, from the highest to the lowest, so strong a desire in every way to raise and advance the profession to which we are so attached. I will conclude my remarks by reading the resolution which I have been permitted the honour to second. (Cheers.)

Mr. DENNANT.—I have very sincere pleasure in rising to support this resolution in a very few words. When, in August, 1875, I had the honour and pleasure of acting with gentlemen, whom I am delighted to see here to-day, in promoting the cause of Dental reform at the memorable meeting at Manchester, I confess I was scarcely sanguine enough to suppose that at so early a date as the present we should be able to meet as we gather together to-day to congratulate ourselves upon the success of our project. We saw rocks ahead, we had difficulties to overcome, we had obstacles to surmount; but then, fortunately, we have had the right men to take them in hand. We have had, as you have testified to-day by your appreciation of the first resolution, a splendid general in our respected chairman. The very name of John Tomes has certainly been a tower of strength to us; we owe him and we give him, I am sure, a very sincere and affectionate respect for his life-work for the profession, and for the good of his brother men. We have also had a most indefatigable and able secretary in our friend Mr. Turner, and we have had a united band of workers. Unity in our case has been strength, but no one will be more able to appreciate the valued services of the president and secretary than the members of the Dental Reform Committee. Those who have been nearest to them in their work can, of course, best judge of the immense value of their services, but I believe none of us will ever know the amount of thought, and care,

and wisdom that has been exercised upon this subject. It has been said by gentlemen whose views are certainly entitled to respect, that we have voluntarily by our movement severed ourselves from the medical profession. Now, I claim to differ from this opinion; it cannot possibly be correct; for we owe our authority to act to the Medical Council, and our education and qualification is given to us by the Colleges of Surgeons of the three kingdoms. Any apparent disadvantages, I think, are more than counterbalanced by the genuine gain to us in other respects. You know for many years past we have been suffering from unpleasant, unhappy growths about us as a profession—fungi, if you like to call them so—that have sadly injured us, and interfered with our comfort. A simile in nature will show what I mean. When taking a walk through a park land or a forest you stop to admire some gigantic monarch of the woods, and you wonder how it has weathered the storms of centuries. You look about its trunk and you see twisted about it all kinds of growth; that the ivy has almost threatened to strangle out its life, but its inherent vitality has kept it going. On further searching you find at the root that the woodman's axe has been applied, and that the parasites have been completely severed, so that the tree has had its way. So it is, I think, with regard to this Act of Parliament of ours. I believe that may be considered as the axe which has severed for us the unhealthy growth, the growths of empiricism in all its varied forms. Certainly there may be a great deal of vitality left in the clinging weed, but the plant is doomed; it must die; and after August next every addition to the ranks of Dentistry will be that of an educated and qualified man. We have arrived, as you know, at a most important crisis in the history of our profession, and we have no association to represent us at this crisis. Some have thought that the Odontological Society might have taken up political action, but I think that the Society has acted very wisely indeed in not making a Quixotic attempt to tilt against the windmill of political organization. We certainly do not require an association for the cultivation of professional vanity, or for the promotion of the vanity of a few, but we want wise, united, and magnanimous action at this moment for the common weal. (Hear, hear). This is not the time for indulging in the spirit of exclusiveness or narrow-mindedness; we must have a broad base for our association, so that the superstructure that may be raised may be comprehensive and even national in character. We, of course, must look to ourselves now; we require self-protection, it is the first law of life, and no doubt the Associa-

tion will take that very earnestly into consideration. We are at present without a benevolent fund, and I for one shall be very much disappointed if the growth of this does not prove a very great success in our hands. We want to contemplate, not only the immediate needs of those who may be in distress, but I look forward to the time in the somewhat near future when we may contemplate aiding in the education of our sons. We see what the medical profession has done in that direction; they have founded at Epsom a college and have established scholarships. It is true that they were assisted by Prince Albert and other influential supporters, but that institution stands as a wonderful example for us, and I hope we may show our worthiness of public support, so as in the near future to assist in the education of our children. You may consider that these views are chimerical, but I think it is well we should fight for a goal; it is well we should have high aims in life, especially when those aims are in the direction of beneficent action for the good of others. (Applause.)

Mr. P. HEADRIDGE said the profession was sincerely indebted to those gentlemen who had acted so well upon the Dental Reform Committee. His object in rising was to express the opinion that the managing body of the new association about to be created should be composed of representative men from all towns in the kingdom, and of men for whom they could have the highest respect. With all respect to the Dental Reform Committee, however, he should not support the scheme for the association unless it was to be taken as an entirely fresh body.

Mr. PARSONS SHAW (Manchester) said he should support the Committee in the course they had adopted. As to the formation of a society with so grand a title, it should be distinctly understood that it had other objects besides the formation of a benevolent fund, and he thought those objects should be a little more distinctly defined. They ought not to form an association which, with all deference and respect, might be called a mere trades union, but they should have in connection with the society a distinct understanding that, wherever it went, London or any other place, the advancement of Dental art and science should form a distinctive part of its rôle. He hoped that matter would be made a little more clear before they proceeded. It was one of great importance, and it was very desirable that it should be distinctly understood.

The SECRETARY.—I think the last speaker has done well to mention this matter, but if he had listened attentively to the President's address, he would have seen that all that he

has said, and much more, was fully entered into and sketched out therein.

The CHAIRMAN.—There must be a little misapprehension as to what our purpose may be. The resolutions, taken as a whole, come practically to this, that you entrust the Dental Reform Committee, with power to add to its numbers, for the purpose of drawing up a scheme for a permanent Association, which scheme must, of course, receive the approval of the members of that Association at its first meeting. I indicated that there would be annual meetings. I believe that this suggestion will be adopted, and at the first annual meeting, whatever has been done by this Committee, will have to be fully explained, and if the course taken is not approved some other course must be adopted, or some other committee appointed. (Applause.)

The resolution was then agreed to.

Mr. RYMER (Croydon).—Mr. Chairman and Gentlemen, the resolution which has been placed in my hands, and which I beg to move, is as follows:—"That duly qualified practitioners entitled to be placed on the Dental Register alone be eligible to be enrolled in the Association, and that the Association be supported by annual subscriptions." It affords me, gentlemen, the greatest pleasure to be present this evening to assist in the organisation of the Association, the important and beneficent objects of which have been so ably explained to you by those who have spoken to the first resolution. That resolution is most comprehensive, but it is evident that it requires a rider, and this rider is contained in the resolution I have had the honour to read to you. It is evident that the Association must consist of individuals, and any Association of Dentists must consist of Dentists; and it is quite clear that those Dentists should be duly qualified, that is to say, taking the term in its most liberal sense, they should be those who are justly entitled to be enrolled in the Dental Register. I do not think I need say any more upon that point, except to remark that the Association will, of course, require the sinews of war, and therefore it is only right that the *addendum* should be made that it is to be supported by annual subscriptions. This is not the first time that I have had the honour of addressing a general meeting of my professional brethren. It is twenty-two years since I, in common with many whom I see around me, was engaged in the work which has led to the present meeting. A number of opinions were then held, and many meetings were convened; but although there might have been differences of opinion, as soon as a certain amount of mist which overhung the views of those who were engaged

in the great work, was cleared away, it was found that all were working towards one common end—the great end of the advancement of our profession. We had no other end in view, and we have now assembled here to consummate the work begun in various quarters twenty years ago. The Dentists Act has been happily and speedily passed. It is a matter of astonishment to me, considering the amount of labour that has been required to get the Act passed, that it has been passed so soon, and that we are enabled to meet to-day to devise means for putting it into operation, and carrying out its provisions liberally, but at the same time properly (so that it may not be in any way abused), and in accordance with the intentions of its promoters and of the legislature. Gentlemen, upon this occasion I do feel that a great work has been accomplished in the course of the last twenty years. Seeing so many old friends around me who, like myself, have turned grey in the interval, I do feel that we have not lived in vain, and I am thankful to have lived to see this day, to see this great representative meeting—the most representative meeting of the profession probably that has ever been held in this or any other country. Looking back upon the past, and reflecting upon the spirit of my professional brethren, the spirit which has accomplished all this, I feel thankful that to-day that spirit remains. We meet to-day, not as a matter of finality, we meet to see that the works of the past shall be made beneficial in the future. I look to the future with very great hope and with very great confidence. We see that by the recent enactment which has placed the Dental profession in a recognised position in the nation, the portals of the profession are now opened to those, and to those only, whom we wish to see amongst us, namely, educated men, and men of science. Such men have now indeed something to allure them, and we may well look forward with hope to the future of our calling. I will add no more, sir, except again to express the great pleasure that I experience in meeting so many old friends in this large assembly, and also in seeing the meeting presided over by one so highly esteemed and respected as yourself. Before I sit down let me just express my deep regret that so many who commenced the work with us have passed away, and are not able to partake with us this evening of the satisfaction which we must all experience. (Cheers.)

Mr. UNDERWOOD.—Mr. Chairman and Gentlemen, I have great pleasure in seconding the resolution. It will, I think, commend itself to your approbation, inasmuch as it comes directly within the lines of the Act, the attainment of which has been a work of such heavy but agreeable labour—labour

which has happily terminated in getting it through in a single session. You perceive that the only persons entitled to be enrolled members of this Association are those who are by law entitled to be placed upon this Register. The very fact of their being placed upon the Register shows that they have declared themselves to those in authority to be *bona fide* practitioners, and as such are the best representatives of the Dental profession. The element you have in this Committee is one in which you can place reliance, and one that is justly entitled to your approbation and support. Mr. Rymer has said all that is necessary upon this resolution a great deal better than I could. That it is one you will all agree with, appears to me to be self-evident. Mr. Rymer, in speaking to the resolution, felt bound to say something to gentlemen who come, as many of you have, from great distances, with regard to the early work of our profession in which he played so prominent a part some twenty-two or three years ago. I cannot let the opportunity pass without saying a few words on the same subject, for such an opportunity may not occur again, at any rate in my lifetime, because periods of twenty years tell upon us all. It is with no ordinary feelings that those who were enabled to take an interest in the early efforts of the Dental profession to give it "a local habitation and a name" can look round the room and see so many who have paid us the compliment of coming from very great distances for the purpose of doing all in their power to help this movement in which they are so much interested. You will, I am quite sure, pardon us—I speak of those who have been more especially engaged in the Parliamentary work that has been going on—if we say that we address you on this occasion with no ordinary feelings. We all feel most deeply grateful for the support that you as our professional brothers have given us, and for the success which has attended our efforts—a success which we believe will place our common calling in a position in which it will be almost unassailable. At any rate, we have accomplished a work that twenty years ago every thinking man in this room would have said it was absolutely impossible to bring to a culminating point in so short a space of time. I will not detain you longer, but will simply repeat that I have great pleasure in seconding the resolution. (Cheers.)

The resolution was then put and carried.

Mr. HILL.—Mr. Chairman and Gentlemen, I have a resolution to propose to you which, I think, if the others have been accepted (as, indeed, their merits deserved) unanimously, will be received by you with positive applause. Before I read it, allow me to preface the few remarks I shall

make by a truism which will be self-evident to you all—that every enterprise which men undertake from time to time, although containing in itself inherent merits and the elements of success, does not necessarily succeed. We have neither to look long nor far before we feel that this is positively, and sometimes very disappointingly, true. But in the case before us we have success positive, success absolute, success guaranteed, success achieved. Under these circumstances we may ask ourselves the question how it is that this success has fallen to our lot. I believe that the question is very simply and quickly answered. The success that has attended the enterprise in which the Dental profession has been engaged during the last few years has been on account of those who have conducted its affairs. In other words, we have had wise men who knew what they ought to do, who knew when to do it and how to do it. The resolution I have to propose is, “That the past and present members of the Executive Council of the Dental Reform Committee be, and hereby are, elected as a representative Board (with power to add to their number) to carry out the provisions of the foregoing resolution, with full powers of action.”

President.—John Tomes.

Vice-President.—Thos. Underwood. | *Treasurer.*—James Parkinson.

Hon. Sec.—J. Smith Turner.

Executive Council.

Buchanan, G. (Glasgow).	Moon, H. (London).
*Cartwright, S.	Newman, W. J. (Liverpool).
*Coleman, A.	O'Duffy, J. (Dublin).
Dennant, J. D. (Brighton).	Parkinson, G. S. (Bath).
Fothergill, W. (Darlington).	Peacock, C. J. (Scarborough).
*Fox, Charles James.	Roberts, C. (Ramsgate).
Hepburn, D. D. (Nottingham).	Rogers, T. A. (London).
Hepburn, D. H. (Edinburgh).	Rymer, S. Lee (Croydon).
Huet, F. A. (Manchester).	*Saunders, E.
Ibbetson, G. A. (London).	Sims, C. (Birmingham).
King, J. (York).	*Smith, Dr. J. (Edinburgh).
Kyan, J. H. (Preston).	Tomes, C. S. (London).
Manton, J. N. (Wakefield).	Vasey, C. (London).
Mason, J. Browne (Exeter).	Woodhouse, J. A. (London).
Merryweather, Dr. (Sheffield).	Wormald, S. (Stockport).

* These gentlemen are past members.

When I propose this very simple but very suggestive and comprehensive resolution I believe you will instinctively say—“Well, of course, what else? or what better thing could we do?” The men who have proved themselves so worthy of our confidence in the past, who have brought us up the hill Difficulty and landed us safely at the top—could we for a moment dream of asking anybody else to take our affairs, now in a critical condition, out of their hands? Could we

show them so much disrespect as to ask any set of men to supersede them at this juncture of time? No, my friends, we have too much confidence in those who have been acting upon the Reform Committee to let them slip out of the little noose into which they have so voluntarily and kindly put their necks; we mean to hold them tight; we mean (if I understand the feeling of the meeting) to keep them to their work as long as they will be kept there, and to ask them to go on and prosper as they have hitherto gone on and so remarkably prospered. I will venture to make this remark. If you or I had to send a consignment of any thing valuable from this quarter of the globe to any other quarter we should not only be anxious about the ship being registered A 1 at Lloyds, but we should be glad to know something about the captain and the crew. Now, the guardianship of the interests of our profession is the consignment that we have put on board our ship, and the question now is—Who is going to be the captain, and who are going to form the crew? Well, I think we cannot do better than say, "Gentlemen, as you were." (Cheers.) The motto of our resolution must be "*in statu quo ante.*" Yes, we must ask those who have served us so well to be so gracious and kind as to serve us a little longer. (Cheers.) I am delighted to find the good old pilot here to-night. He has had his hand upon the helm. There are also a good many of his crew here, and I congratulate them, without flattery or fulsomeness, for what they have done under his guidance. We ask them to continue their useful labours. The principle on which our friend Mr. Tomes has acted is like that attributed to General Grant. When he was engaged in reducing the rebellion in the Southern States, he was asked how he intended to do it, and he replied, "I intend to keep pegging away and pegging away until I bring the enemy to the last ditch." Now, I do not know anybody who is so apt at "pegging away and pegging away" as our excellent Chairman and friend, John Tomes. (Cheers.) He has been "pegging away" with a persistency which is simply admirable, and the result of it has been the Act of Parliament which has given us a legal position, and we stand here to-night, not only with a social position, not only with a scientific position, but with a legal position assured and guaranteed. (Hear, hear.) I may say, in passing, that whilst a good many persons sneer at the Act of Parliament which is the outcome of what has been done by the Reform Committee, and would pick holes in it, and find a great many faults with it, in my operating room I have received the voluntary testimony of one of the highest, if not the highest, legal authorities in this land, that our Act

is not only a good one, but a most efficient one; and I believe that if all the judges were sitting here, not one of them would refuse to take off his hat in the presence of that gentleman whose opinion I received, and bow with reverence to what he said. We may congratulate ourselves that we are in a safe position, and if those who have brought us thus far safely are to be asked to continue their labours amongst us, I think it is only due to them and in accordance with common sense. (Cheers.)

Mr. CAMPBELL (Dundee).—Mr. Chairman and Gentlemen, I have great pleasure in seconding the resolution so ably moved by our worthy friend Mr. Hill. I do not know that it would further its passage were I to add a single word to what he has stated, but it has occurred to me that we should be acting like fools if we did otherwise than accept the services which have been so ably and willingly rendered by the executive portion of the Dental Reform Committee. A great deal has been said about our worthy Chairman Mr. Tomes to-night. He and those who have acted with him are too old to receive flattery, and what has been said has been really the truth. Just before our large Dental Reform meeting held in Edinburgh, when we were thinking of having some little meetings to prepare for it, I ventured to suggest that we might possibly get Mr. Tomes to take the chair upon this occasion. I hardly thought it likely, even when I suggested the possibility of it, but, with his usual kindness, he heartily responded to our invitation, and we had the benefit of his presence at that important meeting held in Edinburgh a short time ago. Gentlemen, I have had some things in my mind that I should like to say, but you will agree with me that it will be as well that I should be brief, as time is short. I am sure I cannot help you to agree to pass this resolution, because you will all accept it most heartily. (Cheers.)

The resolution was put and carried.

Mr. COLEMAN.—The resolution I have to propose is that the best thanks of the meeting be accorded to the gentleman who has presided over us this afternoon with such capacity, such kindness, and success. I have the greater pleasure in performing this duty, because it was my misfortune to differ from Mr. Tomes in some of the earlier proceedings of the Dental Reform Committee. A few of us who differed from him considered that he was rather too zealous in the cause, and that his zeal a little exceeded his discretion and coolness. But that is a matter that we cannot regret, and, indeed, my only reason for mentioning it now is that the result was that it brought Mr. Tomes to the fore. In a

marvellously short space of time he and the gentlemen of the Reform Committee have accomplished that which we must all have most ardently desired, and now under his presidency we meet to consolidate and carry out to the fullest extent that good work. Perhaps we may see in the measure that has passed, some features which we cannot wholly approve, but, gentlemen, as in the case of the choice of a wife, we must take it for better or for worse. (Laughter.) Happily in both cases the worse may be made the better. I have immense faith in association, and the greatest possible belief in example; and these two combined may, and I trust will, be such a leavening influence over all those who call themselves Dental practitioners that ere long we may feel that we have a right to claim an equal position to that of any branch of the great and noble art of surgery. (Cheers.) Gentlemen, I know Mr. Tomes too well to believe that any words of flattery from me would be agreeable or satisfactory to him. He has that which is far better than anything I, or any of us, can say. He has the reward of his own conscience in having carried out a great work that will not only be appreciated in his own day, but in generations to come—a work which, while it has done much for our profession, has done infinitely more for the public at large. He is deserving of our best thanks, and I have the greatest pleasure in proposing that our thanks be presented to him for his presidency. (Applause.)

Mr. TURNER.—As I know a little of the labours which Mr. Tomes has bestowed on the work which is now to a certain extent accomplished, no one is perhaps better fitted to second this vote of thanks than myself. I know to some small extent the amount of work both night and day which Mr. Tomes has given to us, and I think I shall be able to make a collection of literature in the shape of pamphlets and letters, such as will form a volume of no small magnitude, which I hope to show you some day, so as to give you some idea of Mr. Tomes's labours, not only in moving about but in the intellectual activity which he has displayed even when he was confined to a bed of sickness. We can do no other than thank him, and I feel sure that this vote will be as unanimous as any resolution that was ever passed. (Loud cheers.)

The resolution was passed by acclamation.

The CHAIRMAN.—Gentlemen, I cannot express too strongly my high appreciation of the kind manner in which this vote of thanks has been proposed, seconded, and adopted. The discussion has become somewhat personal, and it never has been, and I suppose never will be, agreeable to me to speak

upon a strictly personal question. You must therefore excuse me if I say but little. What I do say I say sincerely—that I thoroughly appreciate your kindness. I may say, for myself, that I have had a great interest in all that I have done, that I have done it as well as I could, and, as far as I know, with a liberal hand. All that I regret is that I have it not in my power to express my sense of gratitude personally to every individual who has rendered me assistance in carrying out the purposes of the profession, but it is beyond my power to do so. The truth is, that in all matters of this kind it is necessary to trust somebody, and I feel that the profession has trusted me. (Hear, hear.) I hope they have not been misled, and that they will not, individually or collectively, in any way suffer by the trust reposed in me. There is but one other thing I would say. We have not done our work, and we want money to go on with it. I must therefore ask you to put your hands in your pockets and to become enrolled in the Association. Without money we cannot proceed; with money we can, I think, render very great assistance in thoroughly carrying out the spirit and the letter of the provisions of the Dentists Act. The machinery is created in the Act itself, and we must assist in setting it in motion. Again I thank you for passing this resolution. (Cheers.)

The minutes of the proceedings having been read and confirmed, the meeting separated.

The following gentlemen were present at the meeting :

Ayres, Edward (London).	Ditch, Doren (London).
Barnett, B. J. (London).	Faulkner, John (London).
Barrett, H. J. (London).	Fletcher, John B. (London).
Bennett, F. J. (London).	Foran, J. C. (Eastbourne).
Bennett, Storer (London).	Forsyth, W. T. (London).
Betts, E. G. (London).	Frost, George.
Bradshaw, Richard (London).	Gaddes, Thomas (London).
Bromley, C. H. (Southampton).	Gibbings, Ashley (London).
Bullin, Fred. (Chester).	Goepel, J. R. (Liverpool).
Campbell, Walter (Dundee).	Grant, J. G. (Hackney).
Canton, Frederic.	Greenfield, John (London).
Carter, A. (Watford).	Gregson, George (London).
Cauvier, John (London).	Harding, Milward (London).
Coffe, W. W.	Harding, T. Henry G. (London).
Coffin, C. R. (London).	Harrison, Richard (London).
Coffin, Harold L. (London).	Hatfield, J. H. (London).
Coleman, Alfred (London).	Hayes, John (London).
Coles, Oakley (London).	Hayman, Alfred G. (Clifton).
Conrath, F. W.	Headridge, T. A. (Manchester).
Cormack, D. (London).	Headridge, William (Manchester).
Crappier, J. S. (Hanley).	Hearn, Charles (Northampton).
Cronin, Augustus (London).	Hepburn, David (London).
Davies, E. Llewellyn (London).	Hepburn, Duncan D. (London).
Dennant, J. (Brighton).	Hepburn, Robert (London).

- Hibbert, J. E. (Manchester).
 Hill, Alfred (London).
 Hoole, Stephen (London).
 Hutchinson, S. J. (London).
 Ibbetson, G. A. (London).
 Kyan, J. Howard (Preston).
 Láit, William.
 Laurence, Herbert A. (London).
 Laws, John (Weymouth).
 Longhurst, H. Bell (London).
 Lyons, I. I. (London).
 Mackenzie, F. V. (London).
 Mahone, Thomas (Liverpool).
 Margetson, W. E. (Dewsbury).
 Mason, J. T. Browne.
 McAdam, G. Christopher (Hereford).
 Medwin, A. G. (London).
 Miles, Edward (London).
 Miller, J. (London).
 Moon, H. (London).
 Morgan, William (London).
 Moxon, H. J. (London).
 Newman, W.
 Noble, Charles J. (London).
 O'Duffy, John (Dublin).
 Palmer, T. W. G. (Cheltenham).
 Parkinson, James (London).
 Parson, T. C. (Clifton).
 Parson, William M. (Bristol).
 Petty, Frank (Reading).
 Pierrepont, Evelyn (Manchester).
 Pillin, L. B. (London).
 Pritchard, John W., D.D.S.
 Real, C.
 Ritson, J. L. (London).
 Roberts, Charles D.
 Rogers, Claude (London).
 Rogers, Richard.
 Rogers, Thomas A.
 Rooke, J. H. (London).
 Rymer, S. L. (Croydon).
 Saunders, Edwin (London).
 Sewill, Henry (London).
 Shaw, Parsons (Manchester).
 Sims, C. (Birmingham).
 Sims, Charles (Birmingham).
 Steele, J. (Croydon).
 Stewart, R. E. (Liverpool).
 Stocken, James (London).
 Tones, Charles S., F.R.S. (London).
 Tones, John, F.R.S. (London).
 Torpey, George (London).
 Turner, J. S. (London).
 Underwood, Arthur S. (London).
 Underwood, T. Francis Ken (London).
 Underwood, T. (London).
 Vanderpant, F. J. (Kingston-on-Thames).
 Vasey, C. (London).
 Visick, A. Baxter (London).
 Waite, W. H. (Liverpool).
 Walker, G. (London).
 Walker, Joseph, M.D. (London).
 Walker, R. (Manchester).
 Ward, George (London).
 Wedgewood, J. J., M.D. (London).
 Weiss, Felix.
 West, Charles (London).
 Welch, James (Brighton).
 West, E. B. (London).
 Whitehouse, Walter.
 Whiteley, C. W. (London).
 Williams, G. (London).
 Williams, G. A. (London).
 Willis, W. F. (London).
 Willson, George (London).
 Wood, William Robert (Brighton).
 Wood, W. R., junr. (Brighton).
 Woodhouse, J. A. (London).
 Woodhouse, Robert H. (London).
 Woodhouse, W. H. (London).
 Wormald, David A. (Lancashire).
 Wormald, Sidney (Stockport).
 Yeates, A. G.

The following students were also present :

- | | |
|-------------------|-----------------------|
| Alexander, H. J. | Hindley, H. Newton. |
| Barton, W. | Hookary, E. |
| Bernard, N. | Howarth, A. |
| Bradshaw, R. | Maggs, —. |
| Chalcraft, N. H. | Major, J. B. |
| Cook, —. | McCall, —. |
| Cooksey, George. | Read, H. |
| Curnock, G. D. | Robbins, C. |
| Daish, —. | Small, D. |
| Davis, Charles D. | Smith, —. |
| Davis, Harry. | Thomson, Frederick J. |

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, MARCH 3RD, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

Mr. Edmund Keen, of King's Parade, Cambridge, and Mr. J. R. Gorpel, of Mount Pleasant, Liverpool, were nominated for election.

Mr. HUTCHINSON then read a short communication advocating the addition of a gold surface to soft fillings. His practice was to take a piece of thick gold, cut it roughly to the shape of the cavity, solder a small piece of spiral spring to the under side and, after heating this in the spirit lamp, to press it into the centre of the gutta percha or osteo. Thus protected the filling would last at least three times as long as it would otherwise have done. He had also made very good bridge stoppings in this way to prevent food lodging between two fillings and pressing on the gum; although this plan was condemned by many practitioners he had found it occasionally useful.

Mr. CLAUDE ROGERS said he had occasionally made gold caps to articulate out stumps, and the results had generally been very satisfactory. He had lately performed the operation for a brother practitioner then present, Mr. David Hepburn, and he was glad to have the opportunity of submitting his work for the inspection of members. The tooth was a lower first molar which had decayed below the gum on three sides, the buccal wall alone remaining. A model having been taken the tooth was restored in wax so as to articulate with the bite; from this wedges were made and a cap was struck up of pure gold and fitted so as just to overlap the margins of the root everywhere; a ring was soldered into the inside of the cap for the purpose of holding it on to the soft stopping. Two screws were then placed one on each root of the tooth, in order to give extra support. Matrices being placed next the adjoining teeth Hill's stopping was carefully packed on to the stump around the screws up to the full natural contour of the tooth. The matrices were then removed, the gold cap heated and then allowed to melt its way into the Hill's stopping until, with the aid of considerable pressure, it had gone thoroughly home to the bite. The gold was then malleted and burnished round the margins and finished off as an ordinary gold filling.

Mr. STEEL asked Mr. Hutchinson how he managed to cut his gold plate to fit the cavity? The more accurately you can fit the gold to cover the surface of the stopping so much

the more perfect was the result. He had followed the plan described by Mr. Hutchinson for some years past, but had not succeeded in surmounting this difficulty.

Mr. ASHLEY BARRETT could not think it good practice to make one stopping serve for two teeth. To mention one only out of many objections, the amount of mobility possessed by the teeth, slight though it was, was quite sufficient, when two were thus coupled, to cause the loosening of the stopping and the work would have to be replaced.

Mr. RYMER said another objection was, that if one tooth remained quiet but the other became painful and had to be extracted, the bridge would complicate matters considerably.

The PRESIDENT said he quite agreed with what Mr. Hutchinson had said respecting the value of gutta percha as a filling; in some cases it would agree when nothing else would; but he could not agree with him that it was ever wise to make one stopping serve for two teeth.

Mr. CHAS. TOMES remarked that although theoretically it would seem desirable to protect the surface of the gutta percha as completely as possible, practically he had found that if only a comparatively small extent of the gutta percha was exposed it did not get worn down. Between three and four years ago he had filled a cavity on the masticating surface of a lower molar with gutta percha and covered this with a mushroom-shaped plate of gold. Half of the surface of the stopping was in constant use, whilst the other half was not exposed to friction being opposite a gap in the upper teeth; yet even after this long interval he could not detect any appreciable difference in the wear of the gutta percha on either side of the gold.

Dr. FIELD said he quite agreed with Mr. Tomes that it was not necessary to cut the gold cap so as to fit the cavity exactly. He entertained a strong objection to bridge stoppings; the gum beneath invariably became inflamed, purulent discharge was set up, and a very disagreeable state of things was the result. With reference to Mr. Rogers' case he would describe a somewhat different method of capping stumps which he had occasionally practised and found useful. He took several thicknesses of 120 rolled gold, welded them into a band and applied this in the form of a ring round the top of the stump, so that it projected above the root about two-thirds the original height of the crown; if the top of the stump was but little above the gum, the edge of the band could be forced under the margin of the gum. Gold screws were then inserted into the roots, of sufficient length to support the gold to be added as a contour. The hollow formed by the ring being filled with osteo afforded a perfectly solid founda-

tion on which to restore the contour of the tooth. An otherwise useless stump could thus be restored to usefulness and the necessity for a plate avoided.

Mr. STEEL said he wished to call the attention of members to the fact, that in May next an exhibition of cutlery would be opened in London under the management of the Cutlers' Company. There would be a section set apart for dental and other surgical instruments, and he hoped that those members who might have in their possession any curious or instructive instruments would not object to lend them on this occasion. He should be very pleased to take charge of any contributions of this sort, and he felt sure that they would be thankfully received by the Cutlers' Company. A selection of instruments from the Society's Museum would be very acceptable.

Mr. RYMER said, that from the well-known status of the Cutlers' Company, and from the good men who were concerned in the promotion of this exhibition, there could be no doubt that it would prove a large and very interesting show. He suggested that the Society should take this portion of the exhibition under its own superintendence, and that a small committee should be appointed to receive contributions, and to select such as were most worthy of exhibition.

The PRESIDENT said he remembered that this course had been adopted in the case of the last International Exhibition in 1862, and that the result was very satisfactory. The Council would consider the matter at its next meeting, and would decide in what way the object in view could best be attained.

The SECRETARY then read a communication from Mr. E. Monteith Tod, of Brighton. He had removed a first lower molar for a gentleman of middle age; the tooth was jammed between the second bicuspid and second molar. It had some time previously been filled with amalgam, but became the seat of severe neuralgia. After extraction he split off a large slice of the distal portion, not exposing the pulp cavity. He then saw, just where in a young tooth one would find the horns of the pulp, a pink striated portion of dentine, in form closely resembling the horns of the pulp. On splitting the tooth again he found the pulp cavity filled with a mass of secondary dentine, only in the roots was there a portion of pulp not calcified. The cavity previously filled was large and shallow, situated on the mesial surface close to the gum. The points in the case which interested him were, first, that the pulp was almost entirely calcified, and yet the tooth was the subject of nerve irritation. And, secondly, the pinkish appearance of the dentine under the

enamel of the crown; it looked as if the dentine in this situation was not wholly calcified, and yet it was shut in on all sides by typical yellow dentine.

Mr. WEISS remarked that calcification of the pulp was not always accompanied by pain. He had recently removed a tooth for a patient aged 92. He found the pulp-chamber completely filled by a mass of secondary dentine; the patient had suffered no pain, but the tooth had gradually become loose, and would soon have dropped out had he not removed it.

Mr. OAKLEY COLES said that the most marked example of pink dentine he had met with occurred in a patient who was just convalescent from an attack of typhoid fever. Had Mr. Tod's patient suffered from any recent illness?

Mr. HUTCHINSON said the only particulars he had received were that the patient had suffered for some time from severe neuralgia of indefinite seat—not confined to any particular tooth and not influenced by quinine. The only reasons for extracting this tooth were slightly increased redness of the gum round it, and slight excess of sensibility on percussion.

The PRESIDENT remarked that the earliest notice of this pink discoloration of the dentine with which he was acquainted occurred in Bell's work on 'Diseases of the Teeth,' published in 1835; it was regarded by him as a proof of the vascularity of dentine.

Mr. COLEMAN said he had on several occasions met with this pink discoloration of the dentine when excavating a cavity; he believed it was due to, or indicated the presence of, a very early stage of necrosis. With reference to ossification of the pulp being a cause of neuralgia, he would relate an instructive case which had lately occurred in the practice of his friend Mr. Ewbank. A gentleman came to him complaining of pain, and he carefully stopped a carious molar which appeared to be the cause. The patient soon returned, the pain had not been relieved. Mr. Ewbank removed the stopping, but could find nothing to account for the pain, and then, at the patient's request, extracted the tooth. On splitting it the pulp-chamber was found to be completely filled by a free mass of secondary dentine. In this case there was not the slightest sign of periostitis and no increased sensibility or percussion, but there was slightly increased sensitiveness to heat and cold. This was the only indication that this was the tooth affected. The diagnosis in such cases was very difficult. The Dentist had to rely greatly on the judgment of the patient, but he must also use all means in his power to guard against mistakes.

Mr. WALTER CAMPBELL (Dundee) then exhibited some

dental splints, described his method of making and applying them, and related particulars of two bad cases of fracture of the lower jaw, which were treated by this means with very satisfactory results. The first was an ununited fracture of six months' standing in a patient aged 55; in the second there was considerable displacement of the fragments. In both cases there were no upper teeth to antagonise with the lower, and to act as a guide in adjusting the position of the model. Mr. Campbell therefore took an impression of the broken jaw; from this a plaster model was made and cut across at the seat of fracture, and a metal plate made for each half of the model. These two plates were put in their proper places in the mouth, and the two fragments of the jaw were then brought carefully into apposition and held there. While in this position an assistant placed some plastic Stent round the junction of the two plates, the parts being kept immovable until this had set. The whole was then removed from the mouth, and the two halves of the model inserted into the model and fixed in plaster. An exact representation of the normal position of the jaw having thus been obtained, the plate forming the splint was struck up over the brass plates, and lined with gutta percha in the usual way.

Mr. WEISS said he had met with such excellent results from the use of the ordinary iron-wire splint that he felt no inclination to try any other.

Mr. CHAS. TOMES mentioned the case of a gentleman who was attempting to ring two church bells at the same time. One of the ropes escaped him, and on descending again the noose caught under his upper front teeth, lifted him up to the top of the belfry, and then flung him down with great violence. His upper jaw was broken between the canine and bicuspid on one side, and between the lateral and canine on the other, the intervening fragment being displaced at right angles to the other teeth. Mr. Tomes used Hammond's wire splint, and a good result followed, but the teeth were totally devoid of sensibility. He wished to ask Mr. Moon, as having treated a large number of cases of fracture of the jaw, whether he thought these teeth had retained their vitality?

Mr. MOON said his experience was that teeth did, as a rule, retain their vitality under these circumstances; certainly, he had never met with anything like sphacelus of the dental pulp.

Mr. HENRY showed a case in which he had introduced a novel arrangement. He had to fit a denture to the lower jaw of a patient who strongly objected to the use of springs

The alveolar border was much flattened by absorption, so that there was no ridge to which he could secure a sufficient attachment; but by prolonging the inner edge of the case so as to grip the myo-hyoid ridge on each side, at the base of the coronoid process, he had managed to get a good attachment. The denture had been in use for twelve months and the patient was quite satisfied with it.

The President then called upon Mr. CHAS. S. TOMES to read his abstract of Dr. Magitot's paper on "The Cure of Alveolar Abscess by the Extraction and Replantation of the Affected Teeth."

Replantation of teeth was nothing new; the subject had on several occasions been brought before the Society, but it had lately been again brought into prominence by the appearance of paragraphs in some of the daily papers. These paragraphs owed their origin to an important *mémoire* lately published by Dr. Magitot, of Paris. He proposed that evening to give a fuller and more accurate summary of this paper than had as yet appeared in England, and it fully deserved the attention of the Society, since it was in many respects the most valuable and conclusive contribution to our knowledge of the subject that had yet been made.

Dr. Magitot commenced his experiments in 1875; his cases now amounted to sixty-three, of which only five have been failures, but as some of these were very recent he had only published the first fifty. Six operations were performed in 1875, fourteen in 1876, eighteen in 1877, and twelve in 1878. The indications for the operation he holds to be the existence of chronic periostitis of the apex of the root, with denudation and absorption of the surface of the root, &c. The resection of the diseased portion, which plays the part of an irritant, is the essential aim of the operation. Contrary to the view generally held in this country, Dr. Magitot holds that this resection can seldom be satisfactorily performed without extraction. Extraction having been performed with due care, the apex of the root was examined, and, if necessary, a portion excised and the resulting edge smoothed off; if there was any caries the cavity was filled, the tooth was then replaced. Dr. Magitot laid no stress on the use of carbolic acid or other disinfectants, but simply washed the teeth in tepid water. He had seldom found it necessary to retain the tooth in position by gutta-percha caps and the like; usually the only after treatment consisted in laying strips of lint moistened with solution of chlorate of potash between the cheek and the gum. Much stress was laid by Dr. Magitot upon the maintenance of free drainage, especially in severe cases, and he found the exis-

tence of an open fistula so advantageous that he sometimes made one artificially, and kept it open for some days with a seton, or transfixed the bone with a piece of platinum wire. Two out of the five failures were due to neglect of this important precaution. In order that the operation should be successful he finds it necessary that there should be a complete ring of healthy periosteum on the replanted tooth, *i. e.* if the periosteum should be unhealthy as far up as the neck, or any part of the circumference of the root, he believes the operation will fail. On an average a cure was effected in ten or twelve days, but one case he counts as a failure, in which the replanted tooth had to be extracted six months after the operation, and four months is the *minimum* time he allows as a proof of success. Pain seems to have been surprisingly little felt. The age of the patient does not appear to have influenced the result; the extremes were sixteen and fifty-five.

Mr. Tomes then proceeded to read particulars respecting some of the most complicated cases which had ultimately been brought to a successful result, and then gave a detailed list of the failures. In several cases the operation was followed by more or less general pyrexia, and in one instance by severe rigors. Mr. Tomes added that the impression left upon his mind by a careful perusal of the cases was that there was scarcely any case of chronic periostitis confined, or nearly confined, to the apical third of the root, which might not be successfully treated by this means and the tooth thus retained for some years. There was, however, one accident to which replanted teeth were liable which it was impossible to contend against, and that was absorption of the roots. He had been obliged to remove a wisdom tooth which had been extracted, filled, and replanted with apparent success a year previously by a foreign practitioner; its roots had been almost completely absorbed. Personally, he had had very little experience of replantation, but had more often practised excision of roots without extraction of the teeth. This operation, which was a tolerably simple one, and much less formidable to the patient than extraction and replantation, was often followed by the happiest results. But all efforts to render dead teeth non-irritant, innocuous bodies were sometimes vain. His idea was that in such cases the protoplasmic material which occupies the dentinal canals and lacunæ of the cementum had undergone some form of decomposition, and that disinfectants failed to permeate the substance of the tooth so as to render this material innocuous. On this hypothesis he could understand how the removal of the apex of a root denuded of its peri-

ostium should make all the difference between toleration and non-toleration of its presence.

The PRESIDENT said he was glad to find that Dr. Magitot's paper was not quite as sensational as had been represented. The paragraph which appeared in the daily papers spoke of transplantation of teeth, and of the teeth of the lower animals being made useful, &c. The thanks of the Society were certainly due to Dr. Magitot for the courtesy with which he had acceded to their request for particulars respecting his mode of treatment, and also to Mr. Tomes for the trouble he had taken in drawing up so clear and interesting an abstract.

Mr. COLEMAN said he felt bound to claim for Mr. Lyons and himself part of the credit which had been given to Dr. Magitot. He had treated a considerable number of cases by this very method long before Dr. Magitot had begun to study the subject. So long ago as March, 1870, he had read a paper before the Society, in which he advocated extraction and replantation as a means of saving teeth affected with chronic periostitis when all other means had failed. He was obliged to confess that his success had not equalled that of Dr. Magitot. Some of the teeth came out stinking, and without a vestige of periosteum; in a larger number the roots were absorbed and the teeth dropped out, but a large number were saved, every one of which must otherwise have been lost, and his opinion was that this mode of treatment might be carried out with great advantage in suitable cases.

Mr. WEISS said that in August, 1877, a man came to the hospital with one right upper lateral carious and the other crowded quite out of line. Both were extracted, and the good tooth from the left side inserted into the place of the other. He had seen the man several times since then, and hoped to have had him present at the meeting, but found he had gone to Leeds. The transplanted tooth was sound and in good position, but was devoid of sensation.

Mr. HENRY said he knew of a successful case of replantation of twenty-five years' standing. A practitioner in 1853, whilst extracting a lower six-year-old molar, brought out also the adjacent second bicuspid; he replaced the latter at once, and it had been a sound and useful tooth ever since.

Mr. CHARLES WHITE said that the same accident had happened to him five times during the last twenty years; in each case the second bicuspid had come out when extracting the first left lower molar. On each occasion he had replaced the bicuspids immediately, tied them in, and he had had no further trouble with any of them.

Dr. FIELD said he had never practised replantation himself

and the cases he had seen in the practice of others had yet not encouraged him to begin. He believed that alveolar abscess could be treated in other ways with a smaller percentage of failures.

Mr. Magitot thought the establishment of a fistula important, and looked upon it as the secret of success, but if a fistula had to be kept open, treatment could be carried on through it and through the root canal without resorting to extraction. So also the apex of the root, if diseased, could be excised through the gum. He quite admitted the great interest of the paper, but it had not convinced him that it was necessary to resort to the practice.

Mr. GADDES asked if Mr. Tomes could inform him what was the condition of the pulp after replantation. Did it ever become reunited, or did it degenerate and become absorbed?

Mr. WALTER CAMPBELL said that, between three or four years ago, a lady, æt. 24, who had very good and regular teeth, sought his advice because the right upper central incisor was an eighth of an inch shorter than the rest. With very gentle manipulation he drew it down to a level with its neighbours; it soon became firm in its new position and still remained living and healthy.

Mr. GEORGE TORPEY said he had performed the operation twenty-three times without a single failure; he had only tied the tooth in on one occasion. He thought treatment by replantation well worthy of the serious attention of the profession.

Mr. LYONS said he had performed the operation in forty cases, not one of which could have been treated by any more conservative method. In comparing this with other modes of treatment it must be remembered that the ordinary treatment of alveolar abscess occupied several weeks, and necessitated a considerable number of visits; whilst with replantation the chief part of the treatment was got over at one operation, and the whole was completed in a fortnight or less. This saving of time and trouble was an important point to many patients.

Mr. TOMES then made a brief reply, and, after the usual vote of thanks, the meeting terminated.

LICENTIATES IN DENTAL SURGERY AND THE ODONTO-CHIRURGICAL SOCIETY.

THE Annual Meeting of the above Society was held yesterday in the new Dental Hospital, 30, Chambers Street—Mr. Hepburn, L.D.S., President, in the chair. After the election

of office-bearers for the ensuing year, and the reading of the Secretary and Treasurer's reports, which showed an increase in the membership and funds of the Society, Mr. W. H. Williamson, M.B.C.M., read a paper on "Retarded Eruption of the Teeth." In his closing address the President took occasion to congratulate the Society upon the fact that it had now found a settled home in the Dental Hospital, and he hoped the members would do all in their power to assist their curator in the formation of a Dental museum, which would form an instructive and valuable adjunct to that institution.

After the exhibition of various objects of interest the meeting separated.

The Annual Dinner of the Licentiates in Dental Surgery and Members of the Odonto-Chirurgical Society afterwards took place in the Balmoral Hotel, Princes Street—Mr. W. Campbell, L.D.S., the newly-elected President, in the chair, with Mr. D. Hepburn, L.D.S., as croupier. The following towns were represented:—Glasgow, by Mr. J. R. Brownlie, S.D., and Mr. Austin Briggs; Aberdeen, by Mr. W. H. Williamson, M.B.C.M.; Dundee, by Mr. W. Cambell, L.D.S.; Stirling, by Mr. L. G. Platt; and Berwick, by Mr. John Wells, L.D.S.

After the loyal and other toasts,

The CHAIRMAN gave "The Dental Diploma." He commented upon the fact that possession of that diploma, which had previously been optional on the part of those practising their art, had by the passing of the Dental Practitioners Act been made compulsory, so that all who entered their profession after August of last year must pass through the educational course it demanded. He dwelt upon the advantages which must accrue to the profession as a body, and the public generally, by restricting the practice of their speciality to thoroughly trained and educated men.

The CROUPIER, in proposing "The Edinburgh Dental Hospital and School," said it had given him great pleasure to see the old Dental Dispensary developed into the Edinburgh Dental School. The dispensary had served its day and generation, doing good work in its time. The present institution was a natural outcome of the times, called for alike by the ever-increasing demands of the poor for the special help and relief it afforded, as well as for the practical training of students in the specialities of that curriculum which recent legislation had rendered compulsory. He was glad to see the subject taken up so earnestly by the profession here, and by many of their brethren in the south, to whom they are greatly indebted for sympathy and help. He trusted

the public would come forward, and by their liberal subscriptions express their sense of the benefits such an institution daily confers upon the suffering and the poor.

ODONTO-CHIRURGICAL SOCIETY.

LIST OF MEMBERS, AS AT NOVEMBER, 1878, WITH DATES OF ELECTION.

Ordinary Members.

1871	Baker, J. A., F.R.C.S.I.,	Dublin.
1869	Brownlie, J. R., L.D.S.,	Glasgow.
	Buchanan, George,	Glasgow.
1871	Cameron, T. R.,	Paisley.
1869	Campbell, Walter, L.D.S.,	Dundee.
1870	Chisholm, James,	Glasgow.
	Chisholm, J. K., L.D.S.,	Edinburgh.
1878	Chisholm, J. K., jun.,	Edinburgh.
1870	Chisholm, W. R., L.D.S., L.R.C.P. & S.E.,	Edinburgh.
1870	Cormack, Alex., L.D.S.,	Edinburgh.
1871	De Lessert, A. A.,	Aberdeen.
1873	Finlayson, M.,	Leith.
1871	Gregson, George, L.D.S., M.R.C.S.,	London.
1877	Harrison, J.,	Sheffield.
	Hepburn, David, L.D.S.,	Edinburgh.
	Hepburn, Robert, L.D.S.,	London.
	Hogue, D. W., M.D., D.D.S.,	Edinburgh.
1876	Hooper, Robert,	Edinburgh.
1877	Laws, J.,	Bolton.
1877	Lipscombe, J. M., L.D.S.,	Kilmarnock.
1872	Macgregor, M.,	Edinburgh.
1874	Macleod, W. B.,	Edinburgh.
1872	Matthew, Charles,	Edinburgh.
1876	O'Duffy, J., L.D.S.I.,	Dublin.
	Orphoot, P., M.D.,	Edinburgh.
1874	Pierrepont, E., L.D.S.I.,	Manchester.
1871	Platt, L. G.,	Stirling.
	Roberts, W. A., L.D.S., M.D.,	Edinburgh.
1870	Robertson, J. A., D.D.S.,	Cupar-Fife.
1877	Rogers, R., L.D.S.I.,	Cheltenham.
	Stewart, R. E., L.D.S.,	Liverpool.
1870	Taylor, William,	Glasgow.
	Underwood, T., L.D.S.,	London.
1877	Walker, J., L.D.S., M.D., M.R.C.S.,	London.
1876	Watson, G. W.,	Edinburgh.
1877	Wells, John, L.D.S.I.,	Berwick.
1877	Wormald, Sydney, L.D.S.I.,	Stockport.
	Williamson, W., L.D.S.,	Aberdeen.
1874	Williamson, W. H., M.B.C.M., D.D.S.,	Aberdeen.
	Wilson, Andrew,	Edinburgh.

Honorary Members.

1871	Bell, J., L.D.S.,	South Africa.
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1869 Fox, C. J., L.D.S., M.R.C.S.,	.	London.
1877 Tomes, J., L.D.S., F.R.S., M.R.C.S.,	.	London.
<i>Corresponding Member.</i>		
1871 Beers, W. G., L.D.S.,	.	Montreal.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF
LONDON, 40, LEICESTER SQUARE.

ANNUAL GENERAL MEETING, JANUARY 20TH, 1879.

S. J. HUTCHINSON, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding meeting were read and confirmed. Messrs. Robinson and Woufer were balloted for and duly elected Members of the Society.

Dr. R. J. West was proposed for election by Mr. McCall, seconded by Mr. Magor.

The Treasurer, Mr. Ackery, L.D.S., then read the Treasurer's Report for the year 1878, showing a balance of £3 5s. 4d. in favour of the Society.

The Secretary, Mr. Pedley, read the Council's Report for 1878. Mr. Mascus Davis and Mr. Bradshaw were nominated auditors of the Treasurer's account.

Mr. Magor exhibited some microscopic slides showing extreme exostosis, and sections of the root of a buffalo's tooth. Also an upper bicuspid having three fangs, taken from a case in which the upper canines showed a transitional form between that of a canine and that of a bicuspid.

Mr. Daish exhibited a highly interesting specimen of gemination occurring between an upper molar and a supernumerary tooth.

The President then called upon Mr. Harriss Newton for his paper on "Materia Medica."

A discussion ensued in which the President and Messrs. Maggs, Pedley, Magor, Dewes, Rees Price, Daish and Robinson took part. A vote of thanks was unanimously accorded to Mr. Newton for his paper.

The following list of officers, elected by the Council to do duty during the present year, was submitted to the General Meeting for approval and confirmation:

President.—S. J. Hutchinson, Esq., M.R.C.S., L.D.S.

Vice-Presidents.—L. Read, Esq., L.D.S.; J. Ackery, Esq., L.D.S.

Treasurer.—John H. McCall, Esq.

Secretaries.—Messrs. Pedley and Magor.

Council.—Messrs. Cooksey, G., Daish, Maggs, Pedley,

Magor (2nd year); Messrs. C. D. Davis, Bernard, Bradshaw and Robbins (1st year). These gentlemen were balloted for and unanimously elected.

ORDINARY MEETING, 10TH FEBRUARY, 1879.

S. J. HUTCHINSON, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding (annual) meeting were read and confirmed.

It was proposed by Mr. W. G. DAISH, seconded by Mr. READ, that the best thanks of the Society should be conveyed, in suitable form, by the secretaries, to Mr. Chas. Jas. Fox, the editor of the 'British Journal of Dental Science,' for his continued kindness in presenting each member of the Society with a copy of the 'Proceedings' of the Society at each of its meetings during the year 1878.

Dr. R. J. West was balloted for and duly elected a member of the Society.

Mr. W. C. STORER-BENNETT kindly presented to the Society three microscopic specimens:—A longitudinal section of the tooth of a shark, a longitudinal section of the lower incisor of a mouse, and a specimen of cellular cartilage from the ear of a mouse.

The PRESIDENT brought forward an interesting casual communication. A young lady had fallen on the ice, broken off the right upper central incisor, and completely displaced the left central. When he saw the case, forty-eight hours afterwards, the left central was driven in at an angle of about 45° , and impinged on the lower teeth. It was so much out of place and so tender that the patient was unable to close her mouth. The apex of the fang could be distinctly felt through the external alveolar plate. Mr. Hutchinson, seizing the tooth, pressed it firmly into its normal position, and, as it would not stay there unless fixed, took an impression in Stent, using a *cold* tray, so as to leave the Stent in the mouth. It was tied in, to act as a sort of splint. In twenty-four hours the tooth had regained its normal position. A proper vulcanite splint was then adapted. The case went on well, and in a week the patient was sent away, the right central having been pivoted. It appeared to be a case of replantation under great disadvantages.

A discussion ensued, in which Messrs. Storer-Bennett, Read, Pedley, H. Davis, and Rose took part.

A paper was then read by one of the secretaries on "Dental Irregularities," by Mr. ALLAN JONES, L.D.S., who was unable to be present.

In the discussion raised by the paper, the President and

Messrs. Storer-Bennett, Pedley, Read, and Robbins, took part.

The thanks of the meeting were voted to Mr. Jones for his able and suggestive paper, and the proceedings terminated.

ORDINARY MEETING, MONDAY, MARCH 10TH, 1879.

LAWRENCE READ, Esq., L.D.S., Vice-President, in the Chair.

THE minutes of the preceding meeting were read and duly confirmed.

Some letters were read from Mr. Hutchinson, who had, much to the regret of the Society, been compelled by pressure of other duties to resign the office of President.

R. H. Woodhouse, Esq., M.R.C.S., L.D.S., was unanimously elected to take the Presidentship, vacated by Mr. Hutchinson.

Mr. Curnock was elected by a large majority to fill the seat in the Council rendered vacant since the last meeting by the resignation of Mr. Bernard.

The following casual communications were brought forward:—

Mr. C. D. DAVIS showed a large piece of necrosed bone, with teeth, from the front of the lower jaw of a patient who had come under his treatment.

Mr. M. DAVIS showed a beautiful polished slab from the molar of an elephant, showing the layers of the different tissues.

Mr. McCALL showed the model of an upper jaw (of a gentleman, aged 26) in which the temporary canines and the permanent canines were all in place and firm, while the laterals were wanting, having probably been removed for regulation. The bite was very imperfect.

Mr. STUCK called attention to a case which had come under his care, in which a girl of 15, of very stunted development, had neither the bicuspid nor the second molars erupted.

Mr. E. Bower was proposed for election to the membership of the Society by Mr. M. Davis and seconded by Mr. Pedley.

The CHAIRMAN then called on Mr. H. DAVIS for his paper on "Dental Caries," which, owing to press of matter, we are compelled to postpone the publication of, but which was listened to with much interest, and elicited an animated and prolonged discussion, in which the following gentlemen took part:—The Chairman, Messrs. Daish, C. D. Davis, M. Davis, McCall, Pedley, Robbins, Thorman, and Magor.

Mr. DAVIS having replied, a cordial vote of thanks was accorded to him for his excellent paper.

Miscellanea.

BENEVOLENCE; AND ITS APPLICATION TO THE PRESENT NEEDS OF THE DENTAL PROFESSION.

By JOHN DENNANT, Esq., L.D.S.R.C.S. Eng.

THE signal success of the recent important meeting of the Dental profession at Willis's Rooms—the first public gathering of the profession since the passing of the Dentists Act—must be the occasion of congratulation to all who have the welfare of their profession at heart; and must have been especially gratifying to the “Dental Reform Committee,” who have striven with much unity of purpose to attain the end for which they were appointed. To those of us on the “Executive Council” of that Committee, who have been entrusted with carrying into effect the resolutions so unanimously passed at the public meeting, the confidence reposed in us, while most reassuring and encouraging, cannot fail to impress us with an increased sense of the responsibility that attaches to our present position and functions. The editorial comments in the last number of the “Journal” on the dangers to which we are exposed, serve as a useful note of warning. For, doubtless, we are face to face with some of the most delicate and difficult problems that ever presented themselves to the profession; upon the proper and wise solution of which depends, to a large extent, its further dignity and well-being.

The time appears to me to have arrived when our professional brethren, who have any pronounced views as to the general scope and limits of a British Dental Association, should make them known through the press.

So long as they confine themselves to points which are thoroughly practical, the free elimination of ideas at this juncture cannot fail to be of service to those of us who have the work in hand. If men have “crotchets,” let them air them, or “hobbies,” let them ride them for a brief space. It is better, to my mind, that we should have a thorough ventilation of opinion now, than, that afterwards, when our scheme is presented for approval and adoption, we should find ourselves attacked for the non-representation of the views of any important section of the profession.

A British Dental Association to be worthy of the name should be comprehensive enough to embrace many objects,

but I intend to confine myself in this communication to the consideration of *benevolence*, in its application to the present needs of the Dental profession, a subject which should prominently occupy the attention of such an association.

It is farthest from my wish to forestall in any way the deliberations of united counsel in the meetings of the executive; I am simply desirous to elicit an expression of the views of my *confrères* upon a subject of paramount importance, and about which there may be differences of opinion.

The Act of Parliament which has secured the protection of the profession and the public, cannot fail to accomplish enormous good; yet before many years have elapsed, it will be found to press very hardly upon many worthy members of the profession.

I refer to the education which is now to be enforced on all entering the practice of Dentistry. There must be scattered through the country a large number of men of irreproachable conduct, but whose efforts in the way of good conscientious practice have not yielded large pecuniary results; perhaps a numerous family, together with a strong determination to do their duty to their children in the matter of education, have deprived them of the power to provide much for the exigencies of later years. They would wish a son to succeed them, not knowing what better to do for their son, or what readier means to find of relieving their own later labours, and supplying their need. But the expenses of, and incident to, the required curriculum are considerable, and probably almost more than they can well afford.

Such cases must be common enough. Now, a benevolent fund consisting of a large number of small annual subscriptions, such as would reasonably be promoted by the proposed association, while large enough probably to meet the demands of special and isolated cases of need, could hardly be made to include assistance in the class of cases referred to, and farther, it would be most difficult to make grants of money in such cases without wounding tender susceptibilities, and attacking that independence of character which is the prerogative of every high-minded man.

What then can be done? My suggestion is that we should accumulate by special effort a fund of, say £10,000 at least, for the foundation of scholarships, to be called—"British Dental Association Student Scholarships." Let not my readers be alarmed at the amount, for I would not propose to raise it at once, or to ask any member of the profession to make any large sacrifice. All we require is a united, steady, and persistent effort on the part of the many in the form of annual subscriptions. If 1000 Dentists would give one

guinea per annum for ten years, or two guineas for five years, the work would be done! Possibly some would give more, and some few less per annum, but I cannot think there should be much difficulty in obtaining £1000 a year for a few years for so noble a purpose. The fund should be vested in trustees, and managed by the Executive of the Association for the time being. Its gradual accumulation would have the advantage of not pressing hardly on the donors, while at the end of the first year, after receipt of subscriptions, sufficient interest would accrue to start a scholarship, and at the end of the second year more, and so on.

The amount and number of scholarships would, of course, be a matter for careful consideration, but they might possibly range from £20 to £50 per annum for two years, and be applied to the purposes of the curriculum in either of the three kingdoms (according to the requirements of the student as to residence), and awarded to the sons of Dentists, below a definite age, upon passing in honours or first division, a certain educational examination required by the "British Dental Association."

The effect of such well-directed benevolence would be the stimulation of the early education of our sons, which would be a great and lasting good in itself, altogether apart from the prize to be striven for.

I may be met with the objection that there are not many who, after paying an annual subscription to the Association, would care to encounter a second annual payment, but it must be remembered that, saving a small sum that may be set apart for ordinary benevolent purposes, the subscription could not be considered a gift, for it would secure a *quid pro quo* in the form of self-protection, and the advantages of association.

We are familiar with the aphorism, "Heaven helps those who help themselves," and many of us have seen it exemplified in our experience, and I am sanguine enough to believe that a determined attempt to help ourselves in this matter, will beget a sympathy in those quarters where education generally is tenderly fostered.

With the known sympathies of the royal house, and seeing the active interest that was taken by the late Prince Consort in the Benevolent Medical College, there would be no difficulty, I imagine, in securing royal patronage, and for those students who exhibited great ability, who would like to prosecute their studies at a university, there are funds already in existence that possibly (by influential interest) may be made available for such purpose. City companies

too, suffering from a plethora of wealth, might possibly be induced thus to assist a useful profession, as the Cloth-workers' Company have done for Epsom College, in giving "£50 a year for four years, and a bonus of £50 to a Foundation Scholar, or a pupil of narrow means, who matriculates at London University in Honours or in the First Division."

But, above all, there must be a thorough earnestness of purpose on our own part to help ourselves. We have just experienced what unity of purpose and action has done for us, and, I take it, that we are not to be daunted by the magnitude of the work.

If we have our "lions in the way" surely we have our "Greathearts" that can slay them.

I leave these suggestions to the consideration of my professional brethren, trusting that the greatness and goodness of the cause may effectually overshadow any feebleness of introduction.

1, Sillwood Road, Brighton.

THE ELECTRIC LIGHT IN SURGICAL AND DENTAL OPERATIONS.

By Dr. BALMANNO SQUIRE,

Surgeon to the British Hospital for Diseases of the Skin.

A LARGE company of medical gentlemen recently assembled in the theatre of the Royal United Service Institution to hear a lecture upon and to witness the trial of an experiment for facilitating surgical operations and examinations in dull weather or after dark by means of the Jablochkoff electric light, by Dr. Balmano Squire. The lamps which the lecturer proposed should be used were two in number, and were respectively a hand-lamp and a bracket-lamp—the former for delicate operations, and the latter for more general use. In explaining the construction of the hand-lantern, Dr Squire showed it to be extremely portable, and, being accommodated with a long handle, the person holding it was thus enabled to keep himself out of the way of the operator; while, as there was no machinery or any apparatus of any kind underneath it, it was possible to bring the light very close to the person of the subject undergoing the operation. The light would burn for nearly two hours, all the time giving out a white ray of surpassing brilliancy. The mechanical construction of the hand lamp (that of the bracket-lamp being precisely similar) was very simple—the

lantern portion consists of a light metal globe four inches in diameter, in the centre of which shines the electric light. As this globe is liable to get hot, ventilation is obtained by a short chimney with overlapping sides, so as to prevent an escape of light from any portion of the lantern but the bulls-eye. The light is obtained by an ordinary Jablochkoff taper about nine inches long, which is fixed along the centre of the handle, while to prevent it burning down into the handle of the apparatus there is a contrivance at the end of the latter for pushing the candle forward, and keeping it in its central position in the globe. Two wires fixed to the lower part of the handle by means of screw clamps connect the lamps with the electric machine. The problem of applying the electric light to surgical or dental operations and examinations was, Dr. Squire considered, a matter which admitted of easy solution so far as the light itself was concerned, the only drawback to the possibility of its immediate use being the expense, as even a one-horse power machine with its concomitant apparatus would cost £100. After dwelling upon the advantages of such a light for navy and army hospital use, Dr. Squire concluded his lecture amid applause. Mr. F. Weiss made the hand, and Mr. Mayer the fixed lamp; and Mr. J. A. Berly, engineer to the Société Générale d'Électricité de Paris, was in attendance to superintend their working, as also that of the two ordinary electric street lamps with which the theatre was illuminated.—*Evening Standard*.

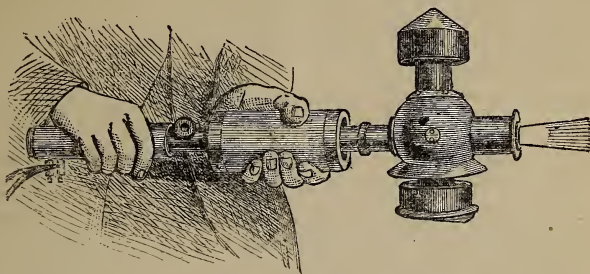
The following is a summary of the special advantages claimed by Dr. Squire for his lantern for Dental purposes.

(1.) The illuminating focus (being produced at the free end of a stick as in the Jablochkoff candle or taper) admits of horizontal treatment and so can be presented free from embarrassment or encumbrance of any kind towards the object to be illuminated.

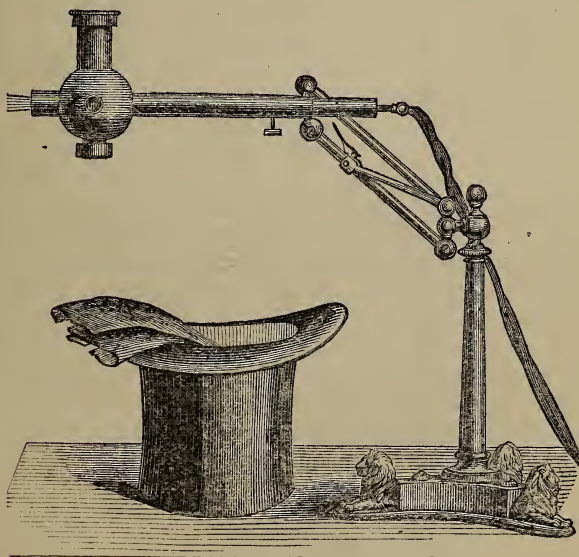
(2.) This condition, and that equally whether direct or reflected light be used, is in itself a considerable advantage, since in the former case the lantern is out of the way of the head or hands of the operator, and in the latter can be brought near by the side of the head or over the shoulder of the patient. Dr. Squire expressed some astonishment that reflected light, employed by means of a mirror worn on the forehead, or worn provided with a central aperture over the eye of the Dentist, was not, as yet, employed by Dentists. Such an arrangement had been found a great convenience by laryngoscopists, and by aurists, and to Dentists, but more especially to short-sighted Dentists, reflected light must prove

equally a great convenience, but more especially so when artificial light of any kind was used.

(3.) The special simplicity of the Jablochkoff light, first as to the regulation and adjustment of it during the use of



it, since it required no regulation or adjustment except the screwing up of the rack and pinion movement of his lamp, and even this needed attention only every five or every ten minutes, and then secondly as to its renewal, which needed only the pulling out of the old candle from its spring-clip and the sticking a new candle into the clip. So that



all the wax needle at the lamp part of the apparatus, the part which was in the Dentist's room, and so, preferably, would come under the handling of the Dentist himself, was remarkably unembarrassing, and required but only occasional

attention and was extremely simple. While at the other end of the wires, the gas engine of only one and a half horse power working a "Gramme" *alternating* dynamo-electric machine, such as could be easily set in action at an instant's notice, and required only such occasional and simple management as was always procurable from the more or less intelligent and skilled mechanics which many Dentists were obliged to keep engaged on the premises, and who, after a lesson or two from the purveyors of the machine, would easily learn this extra duty. The fact was, that a dynamo-electric machine worked by a gas engine required but little or no attention after the gas was once turned on and lighted, and a Dentist might almost safely leave it to work itself until he desired to stop it by his going to it and merely turning off his gas, which was all that was needed to stop its action.

(4.) Considering the fairly profitable nature of the Dentist's trade, and the difficulty that he often experienced owing to dull or foggy weather, or to the short days of winter, in pursuing his avocation in a satisfactory manner, and with justice to his patient, during very many hours of very many of his working days, and taking also into consideration the comparatively moderate outlay of capital required for ensuring to him at all times an excellent and convenient light, so far as Mr. Squire's estimate of the cost at about £100 might be worth, it followed that even if the present conditions of electric lighting, the electric light would probably be a convenience and even an economy to many Dentists.

(5.) Where several Dentists reside near to one another, for example, as in a large city where several of them dwelt in the same street. Then, in such case, one of them more enterprising than the others might have a gas engine and electric machine on his own premises, say in a shed, in a back yard, or in some spare cellar, and might quite cover his own outlay, so as to enjoy the advantage for nothing, by arranging with his neighbour Dentists to lay on wires to their houses, and to "switch" on the currents to them as by appointment made each morning, taking of course due care to reserve to himself each morning whatever hours would best suit his own personal convenience.

PAINLESS OPERATIONS.

THE following is copied from Dr. Collingwood's rambles in the China Seas. If any reader of the journal is in a position to obtain samples of the materials used, I shall be glad to do all which is necessary for a complete analysis, and

to make any necessary experiments, publishing the results in this journal.

Dr. Collingwood was a close and intelligent observer, and from the positive and clear manner in which he states the facts, from his own observation, it is hardly possible that the whole matter could be a deception.—THOS. FLETCHER.

“Another element of the busy scene may be mentioned, viz. the mountebank Dentist. He was a Chinese, and standing in a public place, loudly invited patients to be relieved of their troublesome teeth, several came forward, and the treatment was not a little singular and puzzling. Clapping a red plaster upon the cheeks, over the spot where the guilty tooth was situated, he, at the same time, put inside the mouth a small quantity of a kind of white paste. Then inserting an instrument which looked like an ordinary Dentist’s key he rapidly whipped out the tooth entire; but the most curious part of the circumstance was that no cry escaped the patients, and on narrowly watching their features not the slightest symptom of momentary pain was revealed, but the bleeding fangs of the teeth, as held up to view, negatived the idea that there was any trickery or delusion. The price of the operation was only ten cents. Sometimes the fellow pretended to charm the tooth out without any operation, a feat which he accomplished by sticking the plaister on the face, and inserting the white paste within the mouth as before, after which, instead of using any extracting instrument, he stuck against the tooth the pointed end of a piece of folded paper containing a little of black substance which looked like pitch. Then, having kept the patient waiting for three or four minutes with his mouth shut, he would tell him to cough, when out came the tooth with no further difficulty. I know not what jugglery was used, but these effects were presented to the eyes of attentively watching bystanders.

OPERATING CHAIRS.

It seems a strange thing that makers of operating chairs do not find out the defects that exist in the chairs and alter or improve them accordingly, as it is a pity after giving a long price for an operating chair to find that it is defective and not up to your expectations. I will therefore point out a few of the defects and how they may be remedied, and have no doubt many will find the benefit who make the alterations. I have just made some alterations in my chair, and but for the existing defects in its construction would be

able to make greater improvements in it, which I find must be introduced at the beginning before the chair is formed. I find, to begin with, the chairs are made too high, the height of the one I have being, from the seat to the floor, one foot eleven inches, and I have seen them even higher than this. I may say that I am five feet ten inches high. I find that in operations in the lower jaw I cannot manage to manipulate with that ease and comfort which I could wish. I have therefore had a stool made about three and a half inches high to stand on for lower operations. This I was obliged to do, as I could not shorten the legs of the chair. One foot seven inches, or eight at most, is quite high enough for any chair.

Another defect is in the back being made to slope too much. This is also a great disadvantage in operating on the lower jaw, as you require the patient to be well forward, and although my chair has a falling back I find that it slopes so much that it is very little use to me. This I could remedy by shortening the forelegs, only that it would create, by so doing, another defect, namely, to slope the seat in the wrong direction, so that the patient would be apt to slip out of the chair. The only remedy for this defect is to bring your head-rest well forward. The backs of operating chairs should be made almost straight excepting where they are made without falling backs.

Another defect is in the seat, which, as a rule, is made level. Now, I find with patients there is a great tendency to slip out of the chair; to remedy this the seat should slope at least four or five inches to the back. I lifted off the seat of my chair and fitted a piece of wood under the two front legs of the bearings which carries the seat. I also sunk the back legs a little, so as to give them a solid rest. This has improved it considerably, but not so much as I could wish, and which I was prevented from doing by the existing defects in the style of the chair.

As those who make the chairs do not use them it cannot be expected that they should discover the faults and rectify them; it is, however, astonishing, from the number of Dental chairs that are in use, that no one has brought forward these defects and their simple remedies, and it is to be hoped that the makers will take the hint and turn out more useful chairs in future.—OPERATOR.

THE GENERAL MEDICAL COUNCIL.

OPENING OF THE 28TH SESSION, MARCH 18TH, 1879.

THE PRESIDENT, after an exhaustive *résumé* of the general duties which devolved upon them, proceeded as follows to discuss the Dental question as it would be laid before them, and said :

At your last meeting in October you considered fully the Dentists Act and gave instructions concerning it. The Act is now in full operation. Up to the end of last year the number registered was about 4725. At present about 4790 are registered. After August of this year no one can be registered without a qualification.

According to a report from our Registrar (of whose patience and industry in carrying out the task—now executed once for all—of forming the Dentists Register, one cannot speak too highly), it would appear that of the number registered 314 were Licentiates in Dentistry of the Royal College of Surgeons of England and 91 Licentiates in Dentistry of the Royal College of Surgeons in Ireland. Of 4382 who put in claims to be registered on the ground that they were "*bonâ fide* engaged in the practice of Dentistry at the date of the passing of the Act," 2493 had declared themselves to have been practising Dentistry separately, 21 in conjunction with the practice of medicine, 12 in conjunction with the practice of surgery, 19 in conjunction with the practice of medicine and surgery, and 1837 in conjunction with the practice of pharmacy.

Much objection has been taken to the operation of the clause in which the term *bonâ fide* occurs. Some of the objections are certainly beside the mark. They are objections to the Act. If a proper case can be made out, the Act should be amended. Till then the Act has to be administered.

English law is very jealous of interference with existing rights. There is a class of persons now practising Dentistry which will not, after the 1st of August, be again reckoned among English Dentists. What these do now they will, up to that date, continue to do. Hairdressers, perfumers, jewellers, blacksmiths, and others have hitherto exercised the function of tooth-drawing. The law will not hinder them from doing so. If any of them, however, have fraudulently returned themselves to your office as *bonâ fide* in practice, "either separately" or "in conjunction with the practice of medicine, surgery, or pharmacy," it will be your duty to expunge their names from the Register. The Council will refer alleged cases to a committee of five. This committee will ascertain the facts in each case. The committee cannot erase the name, nor, pursuant to a legal opinion recently obtained, can it commence proceedings till each case has been formally submitted to it by the Council. The erasure must be the act of the Council itself, and this may at first constitute, no doubt, an onerous as well as a serious duty.

Notwithstanding these facts, few would question the utility of a Dentists Act, nor the propriety of its being connected with the Medical Council.

If one were to take a limited view of the medical profession and of the Medical Council, one might say it were better that they

should have nothing to do with Dentists, with midwives, with the licensing of women, or even with diplomas in preventive medicine, and that it were better to leave all "specialists" outside the control and beyond the sympathy of the Medical Corporation or the Universities as represented in the General Medical Council. These several interests might, it is true, be erected into separate bodies and corporations, with all the consequences of competition for favour and of freedom from the influence of the whole profession; but a General Medical Council of Education and Registration hardly deserves the name unless it seeks to maintain a body of persons fit to supply all the just needs of the community in respect of medicine, scientific or practical, preventive or curative.

The Medical Council has within the last few years removed many prejudices, and given breadth and security to the opinions entertained on medicine both by the profession and the public.

In the Report of the Executive to the General Medical Council on its constitution and working, we find the following:

This Act, recently passed, assigns additional duties to the Council, without its having been thought necessary to make provision for any alteration in the constitution of the Council. The Committee are of opinion that the Council is quite adequate for the performance of these additional duties, and, moreover, that it is not desirable that representatives of Dentistry, or of any special branches of medicine or surgery, as such, should be added to the Council.

During the Session, which lasted up to the time of our going to press, many important and interesting points relating to the Act were discussed and decided upon. Of these we have provided a special Report, but want of space renders it impossible for us to publish it in this issue.

A NEW DENTAL ASSOCIATION.

A GENERAL meeting of the Dental profession was held on Monday last, under the presidency of Mr. Tomes, for the purpose of considering "a proposal in favour of the promotion of a permanent representative association." We do not know if the meeting was a very large one, but, at any rate, it may be said, in the daily press-slang of the day, that it was "influentially attended," as many very well known Dentists, metropolitan and provincial, took part in the proceedings. After business connected with the Dental Reform Committee had been despatched, Mr. Edwin Saunders moved—"That a society be now established, under the title

of the British Dental Association, whose object shall be to watch over and further the general interests of the profession with especial reference to the proper carrying out of the provisions and spirit of the Dentists Act, 1878, and with full authority to organise special committees for the establishment and administration of a Dental Benevolent Fund for the assistance of infirm and disabled members of the profession, to be supported by members' special subscriptions, and for any other object that may seem desirable." The resolution was seconded by Mr. H. Barrett, and was unanimously agreed to, and other resolutions for the purpose of carrying it out were passed. The new Association is to be framed on the lines of the British Medical Association, we suppose, and we understand that a scheme is to be drawn up by a committee appointed for the purpose, and submitted to the Association at its first meeting, and that in future there will be annual meetings or congresses, and so on. Whether the project is a wise one or not, and whether it is likely to promote union among the Dentists or not, are matters for the consideration of the Dentists themselves. We offer no opinion on the subject, but we observe that the 'British Journal of Dental Science' is of opinion that "it will require the utmost caution and circumspection, on the part of the committee who are about to frame the rules of this new British Dental Association, to prevent it from becoming the nucleus of a body wholly separated from the medical profession," and that that journal views "this most momentous step with serious misgivings as to the result." The benevolent part of the project is, we suppose, for the formation of a charitable fund similar to the Medical Benevolent Fund; not for the promotion of anything like a scheme of mutual assurance? A scheme of the latter kind would certainly prove a failure.—*Medical Times and Gazette*, March 8th, 1879.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following are some of the questions given at the February Examination :

- How are human teeth developed?
- Give the age at which the temporary teeth are cut.
- Give the age at which the permanent teeth are cut.
- How are the fangs of the temporary teeth absorbed?

Has pressure of the crowns of the permanent teeth anything to do with absorption of the fangs of deciduous teeth?

Shown bicuspid tooth with a red patch on proximal surface, and asked what was the cause of it.

In case of fracture of a tooth, how would you destroy the nerve?

How would you diagnose exostosis?

Frontal bone, asked to give cranial and facial articulations.

Anatomical preparations, asked to point out Steno's duct, sublingual and submaxillary glands, buccinator, pterygoids, inferior Dental nerve, &c.

Asked, what occurred in case of fracture of the tibia?

How did bony union take place?

What became of the extravasated blood?

Why was it necessary to apply splints and bandages?

What would be the result of too tight bandaging?

Was the bone solid after fracture?

APPOINTMENT.

MR. WALTER WHITEHOUSE, L.D.S. Edin., to be Dental Surgeon to the Royal Infirmary for Women and Children, Waterloo Road, S.W.

Obituary.

PROFESSOR J. H. McQUILLEN, M.D., D.D.S.

ON Tuesday night, February 25th, the Dental profession in the United States lost by the sudden death of Professor McQuillen, M.D., D.D.S., one of its most enthusiastic workers, and also one of its foremost public men. For upwards of sixteen years past Dr. McQuillen held the position of Professor of Anatomy and Physiology at the Philadelphia Dental College, of which he was also during the same period dean. He was also for many years the careful and able editor of the 'Dental Cosmos.' Beside these, he devoted a considerable amount of time and attention to oral surgery, while as a microscopist he ranked among the best in the Dental world. Added to the exactions of a large practice in operative Dentistry, these and other intellectual pursuits made Dr. McQuillen one of the most active and energetic men we have ever known.

Withal, however, he was the genial friend, the wise counsellor of students, ever ready to guide and assist the young men of his class, an affectionate and attentive husband and father, as those who have ever been privileged to partake of his hospitality well know,

As a worker, a writer, a speaker, a teacher, and as a warm and courteous friend, Professor McQuillen will be remembered by a large number of men in various parts of the world; while from each one who hears of his sudden decease there will go forth a feeling of deepest sympathy and condolence with the widow and family thus irreparably bereaved.
—W. H. W.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

BRITISH DENTAL ASSOCIATION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Dr. Walker has sent me for the use of the British Dental Association, £10 10s, which liberal contribution, in the absence of an appointed treasurer, I desire to acknowledge through your Journal.

Yours &c.,

JOHN TOMES.

To the Editor of the 'British Journal of Dental Science.'

REGARDING the Membership of the British Dental Association, I think the following rules ought to be carried out—

1st. That any Dentist who has made use of advertisements shall not be eligible until two years after his last advertisements.

2ndly. That any Dentist who has advertised fees or exhibited a show-case shall not be eligible until five years after their discontinuance.

This would have the effect of getting all the respectable *non-advertising* Dentists to join the Association which they otherwise would not do if the Dentists of the *low class* were allowed easy access to the membership.

Also, I think, publicity should be given in the Register to those who are Members of the Association, as it would answer in a great degree for their respectability.

I should like to hear the opinions of those in whose hands the matter rests.

DEAR G KALB.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In looking over some old Birmingham papers the other day I came across a Dental advertisement. Thinking you might deem it worthy of insertion in your Journal I copied it, and herewith enclose it. It may possibly interest some members of the profession.

I am, &c.,

ANTHONY BROWNE.

From 'Aris's Birmingham Gazette,' June 28th, 1773.

"Mr. Grimaldi, Surgeon-Dentist, who is just arrived from London, and stays here till the 7th of July, takes this method of acquainting the nobility and gentry that he will perform his operations appertaining to the mouth. He separates the teeth, and if any are rotten, and give pain, he cures them immediately; draws teeth and stumps, even if they are covered with gum; with ease transplants teeth from one head to another and makes them take root. He also

makes artificial teeth, which cannot be distinguished from real ones, from one to a whole set, with or without springs. He sets young childrens' teeth to-rights, and gives them uniformity. To prevent mistakes his terms are as follows:—Advice gratis. Cleaning teeth 10s. 6d. Filling a tooth with lead 5s. Ditto with gold 10s. 6d. Transplanting a tooth from one head to another £3 3s. Artificial teeth (which always keep their colour) each 10s. 6d. His powder for cleaning and preserving the teeth 3s. 6d. the box. His antiscorbutic water 5s. the bottle. He likewise takes this opportunity of acquainting such ladies and gentlemen as are afflicted with the gout that he will give them immediate ease, and makes an effectual cure or receives nothing for his trouble. He desires no payment for one year or two after the cure is perfected if required. He has cured several in London; and likewise in dropsy he is equally successful. He is to be spoken with at No. 27, Peck Lane, Birmingham, or after the above time in London, at his house under the Little Piazza, Covent Garden."

To the Editor of the 'British Journal of Dental Science.'

SIR,—I noticed in your editorial article that you refer to what I call a great injustice done to myself and others that have had years of hard practical experience by only receiving a certificate of the same calibre as chemists' assistants that know nothing about Dentistry beyond dragging out a tooth (or, what more frequently occurs, a part of it) and putting a little soft gutta percha into an uncleared-out cavity, which they call stopping. Now, sir, I do not think it ever could have been intended to do so great an injustice to numbers like myself, that for years past have helped to make the practices of some of the leading practitioners in London (for I think those gentlemen will admit that the success of their practices has depended greatly upon the skill of their mechanical assistants), to place us on the same footing with the chemist Dentist that never saw the inside of a Dentist's workroom. There are few of us but what could undergo and pass a fair examination indeed appertaining to the mouth. It would be preposterous to expect us to pass so stringent a one as the present (L.D.S.'s). It would be undergoing another apprenticeship; and I think the mechanical is just as essential to a practice as the surgical. Unfortunately, I have made use of a circular, a copy of which I enclose, which debars me from obtaining a diploma, which others have been able to obtain by reading for a few weeks a work on surgical and mechanical Dentistry and know nothing about the practice.

Those that have received their registration certificates ought certainly be made to prove where they have learnt or practised Dentistry, for if the mere extracting a few teeth constitutes a Dentist, then I think my respected mater ought to have a certificate, for she was quite as dexterous with a bit of string, and more so, than some of the so-called Dentists with their instruments.

Trusting they will see the necessity of making some alterations,

I am, &c.,

FAIR PLAY AND NO FAVOUR.

N.B.—The gentleman mentioned in the paper you sent with the above letter is *not* the principal surgeon to the institution referred to.

To the Editor of the 'British Journal of Dental Science.'

SIR,—A very able paper was read before the Student Society in November, 1878, on the "Extraction of Teeth," by Mr. Dewes, and where quotations are given it is but fair that the author of such should be acknowledged. At the conclusion of Mr. Dewes's paper he refers to the causes which necessitate the extraction of teeth and proceeds to enumerate it, all of which are nearly word for word to be found in 'Taft's Operative Dentistry,' pp. 286-7.—I am, &c.,

JUSTICE.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The Dental Bill is now an accomplished fact, viewed from many stand-points of interest by many whose interest is bound up with the Bill. Many, however, who registered without understanding or reading it, would do well to intelligently read the Bill and shape their conduct in accordance with it.

All laws are made upon the principle of protection and prohibition. Whatever any law does not prohibit it allows.

The Dental law does not prohibit any one from extracting teeth; therefore, those druggists who registered for no other purpose than extracting show their want of knowledge upon the Bill.

The Dental law is no exception to the rule. It is so framed that it can prohibit a certain line of conduct by the authority of the General Council. It is the very nature of law to prohibit certain acts, rights, liberties, or privileges, and to give back in return an equivalent greater than the prohibition. This is both justice and law. If any law takes away a right or liberty and gives not back an equivalent, that is both coercive and tyrannical. The Dental law has most assuredly taken certain liberties away from the pseudo-Dentists who were in the habit of manufacturing shabby vulcanite Dentists in the space of a few weeks. The equivalent it gives back is tenfold greater than the privilege taken away from them. They are protected from their own evil acts. The public is protected from any more charlatans being made by dishonest men.

Knowledge is powerful for good, ignorance is mighty for evil; therefore, the coming educated Dentists will save by their intelligence, where the boasting, bragging, ignorant Dentists have, and will ruin. Many have registered as *bonâ fide* Dentists, who are a puzzle both to themselves and to the outside world. Without going out of Lancashire can be found these great curiosities of the Dental practitioners before these Dentists are brought into view. Let us ask if they ever read the 38th section of the Dental Bill?

Many would do well to remember that no one is allowed on the Register only a *bonâ fide* Dentist. The 38th section is solely under the control and authority of the General Council. That Council can make, alter, change, or revoke any bye-law or laws, and by so doing can demand that no Dentist shall be a tradesman keeping an open shop. Whatever bye-law or laws are made by the General Council will have to be obeyed. They will have the same force as if they were again passed by the Parliament of the land. Let this be put to the General Council. Are men *bonâ fide* Dentists? Are these men really Dentists? Two quack doctors, one keeps an open stall in the market place; another Dentist advertises his patent quack medicine in a host of newspapers? In another place is druggist, grocer, and Dentist. But here is the king of varieties, a genius of no small ability; one who shines with the lustre of originality. First, a watchmaker; secondly, an umbrella mender; thirdly, a barber; and the last a Dentist. No reason can be urged against these charlatans but that which can be urged against any other tradesmen who keep open shops and drag Dentistry at the heels of their trade in the line anything to win a crust. The General Council will never consent that the ignorant pseudo-Dentists must enjoy more liberties and privileges than the educated licentiate in Dental surgery. The uneducated can advertise, the licentiates must not. The pseudos can keep open shops with show-boxes at their doors, the licentiates are forbidden. The tradesmen Dentists may live the lives of snobs, the licentiates that of gentlemen. The General Council is authorised at Section 13 to erase any name that has been fraudulently placed upon the Dentists' Register.

In the meaning of the Dental law all parties are fraudulently registered who were not in *bonâ fide* practice at the passing of the Bill. It is to be hoped that those men who have worked so nobly and bravely to procure the Bill will not tamely view the present standing of those men who have registered. Some were not in practice, some are not in practice to this day. These men "have granted themselves diplomas in Dentistry and registered them." Are teeth-pullers Dentists? Are those partially engaged as Dentists, whose living depends upon some trade, *bonâ fide* Dentists?

The schedule is very fair respecting those who were not *bonâ fide* in practice at the passing of the Bill. The General Council have the power to say, Who are you? And it is to be hoped they will, by teaching those parties who fancy they can drive a coach and four through the Dental law, that the law will drive them to their proper places without troubling with a coach and four.

I am, &c.,
McDOWALL.

Preston.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 13s. 0d.

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5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

- JOHN O'DUFFY.—We have no space whatever for your communication, and if we had we very much doubt whether we *would* give it a place. All this unsavory mess about the Irish College has surely been stirred up enough. If the cause of the College is good, it certainly needs no such "Will-ye-tread-on-the-taale-o'-me-coat" productions to improve its position; and if it is not, the less we hear of it the better.
- E. BRINDLEY (Sheffield).—The omission of acknowledgment of your paper was accidental, and is regretted. The questions for examination were received with thanks, and we think published in the March issue, p. 158.

Communications received from John Tomes, F.R.S., J. S. Turner, J. E. Hibbert (Manchester), Sec. of the Dent. Hosp. Lond., J. Dennant (Brighton), L. B. Pillin, Dr. Orphoot, Charles West, H. J. Moxon, L.D.S., F. V. Mackenzie, Mr. Campbell, John O'Duffy, Dr. Waite, G. Rutterford, Andrew Wood, Thomas Underwood.

BOOKS AND PAPERS RECEIVED.

- 'L'Odontologia.'
- 'Glasgow Medical Journal.'
- 'Journal of the Chemical Society.'
- 'Le Progrès Médical.'
- 'The Missouri Dental Journal.'
- 'Transactions of the Illinois State Dental Society.'
- 'The Dental Register.'
- 'Deutsche Vierteljahrsschrift für Zahnheilkunde.'
- 'Transactions of the Odontological Society of Great Britain.'
- 'The Dental Cosmos.'
- 'Le Progrès Dentaire.'
- 'The Monthly Review of Dental Surgery.'
- 'The Doctor.'
- 'Chemist and Druggist.'
- 'Reading Observer.'
- 'Gazette Odontologique.'
- 'Daily Review.'
- 'The Athenæum.'
- 'Rochdale Observer.'

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VOL. XXII.

Dental Surgery and Medicine.

CONTRIBUTION ON THE REPLANTATION OF TEETH.

By DR. LUIGI RIBOLLA-NICODEMO.

CASE 1. *Replantation of three inferior incisors, with re-scission of their roots; perfect adhesion; recovery.*—On September 15th, 1867 (the third year of my professional career), a soldier of the 27th Regiment of Infantry, of bilious temperament, presented himself, with the two central and the right lateral under incisors in his hand. He related that the evening before, when slightly intoxicated, in playing roughly with a comrade, while holding the skirt or lappet of his friend's coat between his teeth, he received a violent push backwards so that the three teeth were pulled out. He picked them up, put them in his handkerchief, and, by the advice of his comrades, he came to have them put back again as artificial teeth. On observing the mouth, and seeing that the gums were in a good state, excepting a slight perpendicular laceration on the inward front verge of the lateral incisor. I decided upon trying to replant them in their alveoli, although very uncertain of success, not then being aware of the result expected in similar cases. I rinsed the teeth in a weak solution of chloride of soda and warm water, cleaned the alveoli, removing the coagulated blood which was formed there with a lint of cotton wool twisted round the end of an instrument. Afterwards I injected into the alveoli some of the warm water with chlorate of soda. I then put the teeth back into their sockets; I perceived, however, that they appeared too long in comparison to the others. Determined to try the experiment I removed them, cut off the tip of each root, (three or four millimètres) replaced them in position and although still a little longer than the others, I fixed them with a silk ligature, directing him to use local compresses of the following solution :

℞	Ext. Rhat.	.	.	gramme 3;
	Chlor. Potas.	.	.	" 9;
	Water	.	.	" 300;
	Tinct. of Myrrh	.	.	" 3;
	Laud. of Sydenham	.	.	goccie 20.
M.	To be applied every two hours.			

Three days afterwards the patient had the gums red, somewhat swollen, very slightly painful and with the exception of the first night, he had had complete repose. Mastication was not possible for the teeth were very painful to the touch. I removed the thread, thinking that it was rather hurtful than otherwise. I found the teeth were not longer nor higher than the others and were rather firm. I ordered the following application to be used to the gum with a soft camel-hair pencil, alternately with the first prescription:

℞	Glycerine	.	.	gramme 5;
	Tannin	.	.	" 2;
	Creasote	.	.	goccie 2. M.

After a week I saw him in excellent health, the gums were already of a good colour, firm, and under pressure of the finger, giving out but a slight quantity of blood and pus. The teeth seemed solid, not painful to pressure, precisely level with the others, and although a little darker than before, there was no reason to doubt of a completely successful result.

From that day, however, I have never seen him again.

CASE 2. Extraction of right central superior incisor; rescission of the apex of root; replantation; recovery.—Signora Maria Virgini, about 28 years old; bilious, lymphatic temperament. For several years was affected with a fistulous opening near the frænum of the upper lip corresponding with the root of the right upper incisor. She had consulted several professional men, who had in vain tried incisions and repeated cauterisations, even the thermo-electric. She had made up her mind to have the tooth extracted and artificially replaced, and came to me on that purpose in January, 1868.

On examination I found it very firm, and very slightly displaced forwards and to the right of the other teeth; its colour was natural, the gums a little red and only slightly softened; towards the point of the root a little elliptical hole existed whereby pus exuded from time to time.

Her account of the commencement of the disease was, that the tooth seemed to get long, painful to the contact of the lower teeth, with swelling and heat in the gums, accompanied with cutaneous irritability in that part of the face up to the time of the formation of a pustule on the gum, which opened by itself from time to time, giving egress to a small

quantity of pus, when all the symptoms would cease for a short time to recommence at a later moment, until at last it remained permanently open without producing any annoyance, excepting that of the discharge of pus, and the fear she had of some more serious consequence made her decide to have the tooth removed.

Thinking it was a cystic tumour upon the apex of the root with some degree of exfoliation, I removed the tooth with the forceps.* Its length was two and a half centimètres; for two thirds of its length it was healthy, the remaining third, that about the extremity of the root, was enveloped by a swelling which formed a small open sac at the end, and finished in the form of a tassel, having a fibrous appearance with its insertion in the periosteum of the root. Uncovering the root from this it presented a diaphanous appearance; there was much exfoliation, roughness, and a very thin and sharp extremity. I then thought of replanting it, and with the consent of my patient I cut off the diseased portion of the root with a cutting pincers, removing the roughnesses with a file, and replaced it into position. I kept it there with an arrangement of gutta percha fitted to the free edge of the tooth, fixing it to the necks of the bicuspid.

I recommended the patient to use applications of tannin and glycerine and laudanum to the gum by means of a soft camel-hair pencil and dismissed her. After a week I removed the gutta percha, and after three weeks the tooth had become quite firm, and was in line and length symmetrical with its fellows.

CASE 3. First left under molar; caries, with complication of periostitis; extraction; removal of the ends of both roots; replantation; recovery.—In Marsala in July, 1868, Miss Mary Busconi Clarkson, now widow of the Marchese Alirignani, then about eighteen years of age, of a lymphatic, nervous temperament, applied to me to extract some roots and to fill the first left under molar, which was much decayed, and which caused her severe pain. On probing I found that it was a caries of the third period, the nerve-cavity completely open and full of detritus, leading me to suppose that the nerve had become destroyed by spontaneous decomposition. The tooth was solid, and its dentine insensible to the touch.

I washed the cavity repeatedly with pledgets of cotton wool steeped in tinct. of myrrh and carbolic acid, cleaning the walls of all decayed parts, and applied carbolic acid for

* American system.

two days, after which I filled it with Descayras's amalgam, which at that time was much used. After some days, however, acute pain took place in the alveolo-dental membrane. The tooth became loose. I tried all calming and derivative means in vain. The tooth continued most painful to the touch of the corresponding tooth, and also the near teeth became most sensitive, the gums red and swollen, and all the parts around were intolerant of the least pressure. I then decided to extract it.

On returning to my house, I observed that the roots of the tooth were not diverging. In the centre, through their whole length, I perceived a thin dark line up to the end of the root which terminated in a small fleshy sac. I cut away the extremity with forceps, and emptied the canals of the roots which were full of a most foetid brown substance, produced perhaps by the decomposed remains of the enveloping membranes of the nerves and vessels of the Dental canals, or of the decomposed pulp, and I filled them with cotton wool dipped in a solution of mastich. I did not touch the filling I had previously made because it seemed to me to be in perfect order, and felt convinced that the cause of the trouble was owing to the closure produced by the filling which prevented the discharge of the diseased matters formed in the nerve canals. I filed the asperities on the extremity of the roots, and dipped the tooth in a weak solution of creosote (about one per cent.).

After this I returned to the house of my patient and removing the coagulated blood from the sockets, with cotton dipped into the above-mentioned solution, and having made the blood flow anew, I replanted the tooth leaving it without ligature or support, being persuaded that its own weight, the contact of its fellow teeth, and the form of its double root would suffice to keep it in its place.

At first a slight suppuration manifested itself from the margins of the gum at the neck of the tooth, but after twenty days (to the great astonishment of Dr. Clarkson, who, unacquainted with Dentistry, had tried to persuade his niece not to submit to an experiment which he held to be useless) the patient commenced to masticate without pain. The tooth became firm and up to this day, from exact information I have received, it remains in a perfect state after ten years, without ever causing any annoyance of any kind, precisely as if it had never been diseased.

CASE 4. Fracture of lower jaw, with loss of two teeth, their replacement; firmness regained; recovery.—In the ninth year of my practice, in December, 1873, a car driver, C. M.,

of good constitution and sanguineous temperament, came to me with a small contused lacerated wound on the right side of the chin and corresponding to the foramen.

He related that the preceding evening while bending down to clean his mule he received a kick upon the lower jaw which stunned him; on recovering he felt an inconvenience on his tongue, and on trying with his finger he found that two teeth were lying horizontally, and on pulling them slightly he brought them out. A medical man had prescribed cold compresses, which he had applied carefully throughout the night.

I found the cheek greatly swollen externally, especially near the chin, where a wound about a centimètre long was visible. In the interior of the mouth there was much redness, the saliva much thickened, and the teeth covered with hard and dark mucus.

On holding the jaw on the right side, with the thumb of my left hand resting on the last molars, and the other fingers on the base of the jaw, while in the same manner I held the anterior part of the dental arch, and making pressure in different directions I became convinced that a complete fracture of the jaw had taken place between the canine and bicuspid, which had been driven out by the force of the kick.

I washed the mouth with a weak solution of phenic acid. I replaced the teeth which had come away, fixing them with a ligature doubled before and behind them, and attached to the first molar and central incisor. I after applied compresses steeped in a solution of glycerine and tannin upon the borders of the gums as also on the external wound. I prescribed a purgative and sent him away.

The next day pus flowed abundantly from the margin of the gum and the wound; lancinating pains along the ascending ramus of the jaw and in the temporal region troubled him. After two days I began to inject into every part diluted tincture of iodine, and on the twentieth day I cut the ligature, as the cicatrix began already to be formed; the teeth had become firm; the small external wound still remained, although much diminished in size; on treating it with nitrate of silver it closed completely on the thirtieth day, without necrosis or exfoliation of the jawbone or of the alveolar process.

Palermo,

INJURIES AND DISEASES OF THE ANTRUM.

A paper read before the Students' Society of the Dental Hospital of London, October 21st, 1878.

By J. B. MAGOR, Esq.

(Concluded from page 164.)

Hyperostosis, or extraordinary abnormal development of bony tissue, attacking the superior maxillary bones, will commonly obliterate the cavity of the antrum. Of this disease, which usually attacks, more or less, all the bones of the face, often those of the cranium as well, there are specimens in the Museum of the Odontological Society, of St. Thomas's Hospital, King's College Hospital, St. Bartholomew's Hospital, the College of Surgeons, and other public institutions. The disease is considered by some pathologists, as Otto Weber, to be the result of erysipelas, and is closely related to, if not identical with, that disease to which Virchow has given the name *Leontiasis ossea*, and which he considers as pathologically similar to elephantiasis of soft tissues. It appears to consist primarily in some inflammatory affection of the periosteum, leading to the filling up and condensation of the existing bony tissue, and the formation of new bone. It does not appear to be at all dependent on syphilis or struma.

The character of the new bone formed varies in different cases, in some differing considerably from true bone, viz., in the absence of Haversian systems, the presence of peculiar branching canals, or other abnormalities of structure. Some specimens are cancellous, others extremely dense, while in others, as the specimen at St. Thomas's Hospital, both dense and spongy bone are present.

The treatment, where treatment is possible, for in the advanced cases, and in all where the disease is at all extensive, nothing can be done, is purely surgical, no known drugs being of any avail in checking its progress.

Considerable thickening of the walls of the antrum may follow prolonged empyema of the sinus. In a case under the care of Sir W. Fergusson, an osseous mass projected from the anterior wall, of the size of a pigeon's egg; it was removed, and the deformity disappeared.

True *osseous tumours* have often been met with in the antrum; several cases are on record. The best surgeons advise that no operative interference should be attempted in such a case, but that caustics should be applied to the exposed

surface of the tumour, in order to excite sloughing, and a spontaneous detachment of some at least of the mass; the reason for this being that these bony growths sometimes have been found to implicate the cranial cavity to a considerable extent.

Cysts of various kinds are now and then met with in the antrum of Highmore. The most frequent, and, to us especially, the most important variety is that formed by the true "dentigerous cysts." These may be of considerable size, and may cause by their presence considerable displacement of surrounding parts. But before going further, what do we understand by the term "dentigerous cyst?" And how do such cysts arise?

A "dentigerous cyst" may be briefly described as a hollow tumour, with a fibrous wall, which may ossify, containing a collection of serum or sero-pus, and due to, and dependent on, the presence of a tooth, either temporary, permanent, or supernumerary, which has not been erupted, but has remained "impacted," and lying in the cavity of the tumour. With regard to their origin, the view which has the support of our most distinguished Dental authors is the following: Before a tooth is erupted the soft tissues enveloping its crown become perfectly detached from it, and a small space is often formed containing a little serous fluid. If the tooth be erupted properly this tiny cyst is obliterated, but if the tooth remains impacted, through being deeply situated in the jaw, or other cause, the cyst may enlarge, by absorption of the surrounding bone and secretion of fresh fluid, until it attains a considerable size. If now the impacted tooth makes its way towards the antrum, the cyst will at last get into that cavity, and by accumulation of a considerable quantity of fluid, come to occupy it. In forcing its way into the antrum, the tumour may force up the periosteum, and this may ossify around it, forming a bony envelope. In some of our text-books a specimen is figured of a dentigerous cyst partly filling the antrum, and having an exceedingly thin bony capsule; this specimen is, I believe, in the possession of Mr. Cartwright. But the cyst may continue to enlarge, until it entirely fills the antrum, and the fact of its having a distinct capsule becomes masked. In severe cases, which have gone on for some time without surgical interference, the continuous enlargement of the cyst dilates the antral walls, causing them to bulge outwards, and producing great deformity. A case is quoted at length in Salter's 'Dental Pathology of Surgery,' in which both antra were enormously dilated by dentigerous cysts. On opening them, the right antrum was found to contain, besides

fluid, a canine tooth, loosely attached to the wall, and the left a molar tooth, very firmly attached to the bone; these were removed, and the cases treated by the use of injections into the antra, and the application of external pressure, but many months afterwards little diminution had taken place in the deformity. The *diagnosis* of a dentigerous cyst is at no time an easy matter, but when such a cyst occupies the antrum it is still harder to detect its nature. If the expansion and thinning of the bone has gone on sufficiently far, fluctuation, and the peculiar crackling of the bone known as "craquement," will be present, until the bone does expand so as to produce bulging of the walls, the cyst may altogether escape notice. A puncture made into the antrum will cause the escape of a glairy fluid, and if the opening be enlarged so as to admit of the exploration of the cavity the tooth will be found within. In forming a diagnosis, the absence of a particular tooth from the Dental arch, if it has not been extracted, is a valuable sign, though the teeth may *all* be present, and yet their presence will not preclude the possibility of a dentigerous cyst in the antrum, as it may be dependent on a supernumerary tooth. The *treatment* may be considered in dealing with the treatment of cysts in general.

Another variety of cyst occupying the antrum and dependent on the teeth is that due to disease about the root of a normally erupted tooth. These cysts appear to be formed by the conversion of the sac of an old long-established alveolar abscess into a serous cyst, and are sometimes drawn away completely in extracting the teeth to whose roots they were attached.

That form of antral disease, once known as "dropsy of the antrum," in which the cavity is filled with a clear, sometimes yellowish fluid, often containing flakes of cholesterine, and in which the jaw slowly and painlessly dilates, until the bone crackles on pressure being applied to it from its extreme thinness, is in many, probably in all cases, due to the growth of a cyst, which fills up the cavity so that its special capsule cannot be distinguished. In some cases these cysts are due to the teeth.

"*Vesicular polypus*" is a term given by Virchow to another form of cyst, which probably gives rise to some of the above-mentioned cases of so-called "dropsy." In this case the mucous membrane produces vesicles filled with fluid, which enlarge until they may at length completely occupy the cavity.

The mucous glands, which I have described as existing in the lining membrane, occasionally form cysts, when through

the blocking of their canals the secretion cannot escape. These may be described as mucous cysts, and are of two kinds, according to Giraldès:—1. Those formed by the dilatation of the peripheral part of the duct, and called miliary. 2. Those formed by the dilatation of the whole follicle. These are sometimes single, sometimes multiple. In a case figured in Heath's 'Injuries and Diseases of the Jaws' the whole floor of the antrum is covered with these multiple mucous cysts. They contain at first a clear viscid fluid, which, as development proceeds, becomes flaky from the presence of cholesterine.

The *diagnosis* of cysts in the antrum is practically the same in all cases—fluctuation if the bone be sufficiently absorbed, more or less bulging if the cyst have sufficiently protruded the walls, and last, but most important, the escape of fluid on puncturing; and this fluid, of course, differs from that present in empyema of the antrum.

Their *treatment* may be summed up in a few words; incise the cyst (through the antral wall if it still remain) at its most prominent part, *if possible* within the mouth, and evacuate the fluid. Enlarge the opening sufficiently to admit the finger, so as to search for any tooth or growth which may be within the cavity, scrape away, where possible, all such growths, and remove a tooth, if present; thoroughly wash out the antrum, and inject daily a simple stimulating lotion, such as sulphate of zinc in weak solution, or solution of Iodine. The cure will be slow, but according to Heath, generally permanent.

I should mention that it is highly important to make a correct diagnosis in these cases of cyst in the antrum, as in at least one instance, the entire upper maxilla was removed for supposed tumour, and after its removal the tumour turned out to be only an antral cyst; and several instances might be quoted, in which this mistake was almost committed.

Passing from cysts to *cavernous* or *varicose* tumours, only two cases of these occupying the antrum, are on record, one occurring in the practice of M. Gensoul, the other in that of Mr. Liston. The latter case was that of a young man, twenty-one years of age, into whose nares and pharynx projected an erectile or cavernous tumour, which also formed a lump on the cheek. It did not involve either the alveolar border, or the anterior and lower part of the maxilla. Removal by operation is the only way of treating such cases.

Polypus, of the ordinary gelatinous type, occurring in the nasal fossæ, often pushes the inner wall of the antrum before it, and contracts the dimensions of the cavity; it sometimes absorbs the inner wall, and gets directly into the antrum

itself. This form of polypus is very seldom met with in the antrum as a distinct growth in the sinus. It is very seldom that the various solid tumours which affect the jaws, actually take origin within the antrum, but when they attain to any size, they very often encroach on its cavity, and involve it in their effects. In St. George's Hospital Museum, however, is a fibrous tumour which grew from the antrum, caused the absorption of its walls in various directions, projected up into the orbit and out from its inner margin on to the cheek, displaced the malar bone forward and outward; protruded into the nasal fossa, and projected beneath the alveolar process, which was partly absorbed; and also made its appearance in the zygomatic fossa. The patient died from arachnitis and softening of part of the brain. A similar specimen is preserved in the Hunterian Museum, at the College of Surgeons, and another is mentioned by Dumarquay.

Following Mr. Spencer Watson's classification of diseases of the maxillary sinus, we come next to *recurrent fibroid tumours* and *medullary sarcoma*; these are sometimes found involving the antrum; they generally are associated with disease of the body of the bone or alveolar ridge. There is great liability of mistaking the fibrous tumours, which are non-malignant, for true malignant growths, as they penetrate the bones, and ultimately the skin, and cause fistulous openings on the cheek and foul discharges, and sometimes a bleeding surface, but they do not tend to involve the neighbouring structures, or infect the lymphatics, and do not become reproduced in distant organs. If, however, the tumour has reached the state above described death, preceded by great wasting and anæmia, will probably ensue.

Myeloid tumours have also been found in the antrum, and occasionally cases of *osteo-sarcoma*, tumours in which osseous and fibrous tissues are intermingled, have been met with in connection with it.

We have already noticed, in treating of suppuration in the antrum, how closely the symptoms of that affection often resemble those caused by the presence of a solid tumour, and I have said that one principal means of diagnosis consists in making an exploratory puncture into the cavity, the escape of fluid rendering it probable that the case is one of suppuration, not one in which there is a tumour. We may distinguish a malignant from a non-malignant tumour in most cases by examining the discharge and any *débris* which may come away in making punctures and incisions microscopically, and by noticing whether the lymphatic glands in the neck are enlarged, as they will be in a case of malignant tumour. It will be very helpful also

to consider carefully the anatomical relations of the growth, not only in enabling us to decide as to its nature, but also in aiding us to direct our treatment successfully. True carcinoma, though it often implicates the antrum, rarely commences in it. Again, if the growth springs from within the antrum, we shall usually be able to trace the bony walls of the cavity over the surface of the growth; or if it has gone so far as to absorb the wall, we shall find a thin bony margin round the projecting part of the mass. Bony growths have usually a nodulated rounded surface, which differs generally from that caused by distension of the antral parietes. Examination through the anterior and posterior nares will often aid us considerably in making a diagnosis. Tumours growing from within the antrum will commonly contract the nostril, either by dilating its wall, or by absorbing the bone and forcing itself into the nasal cavity.

Treatment may be summed up in a few words:—If the case be seen in a sufficiently early stage, in the case of large tumours, remove the growth; if it has largely involved, or is involving the maxilla, remove that too; both maxillæ have been successfully removed for tumours involving the antra. But if the growth has involved the bones of the base of the skull, or those of the whole face, extensively, and if, in the case of a malignant tumour, the lymphatic glands of the neck are implicated, things must be allowed to take their course; the case is beyond surgical interference. Of the methods of removing the superior maxillæ, either wholly or in part, it is out of my province to speak to-night, nor do I think it necessary to consider the operations for the removal of tumours from the antrum; these matters, I think, are purely the care of the general surgeon, and I feel that I have already trespassed sufficiently long on your time.

In conclusion, I have to express my regret for two things; first, that owing to the length of the subject, I have been compelled to omit the relation of many interesting cases bearing on the various diseases of which we have been talking; secondly, that from the shortness of the time I have had for the preparation of this paper, I have not been able to make it so complete as I could have wished, and have been prevented from drawing some diagrams, which would have greatly enlivened it, and added to its interest.

Chemical Department.

CONTINUOUS GUM.

DURING my long series of experiments with silicates and compounds of alumina, which have included the whole of the materials used in the manufacture of mineral teeth and continuous gum, I have found one law overruling the whole of these compounds, which may probably render the use of continuous gum a very simple and common matter. It is usual, in the manufacture of the base and gum, to employ the natural minerals, such as spar and quartz ground up together. If, instead of using these, the same compounds are obtained by precipitating them from weak solutions, the precipitate is so very finely divided and so intimately mixed that fusion and combination take place at temperatures which have no effect whatever on the mixtures ordinarily in use, and it is possible, without altering the composition or result, to do continuous gum work at temperatures which are within easy reach of a very second-rate draught furnace, and at the same time to obtain a uniformity of texture which is never obtained in practice with the mixtures now used for the purpose.

If my time and health will permit I intend to go fully into this matter the first available opportunity. I have already made a few rough experiments, but to get anything like a finished and perfect result will require some months of steady work, as the conditions under which the precipitates are made very seriously affect the nature and working of the material.

I believe it is possible to produce a material which has all the properties and practically the same composition as the present continuous gum, which will fuse readily with a blowpipe, and which can be used and worked like ordinary gold solder, at a temperature not exceeding a bright red.—
THOS. FLETCHER.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM MARCH 1ST TO MARCH 31ST, 1879.

Extractions	{ Children under 14	468
	{ Adults	781
Under Nitrous Oxide		231
Gold Stoppings		134
White Foil ditto		23
Plastic ditto		520
Irregularities of the Teeth treated mechanically		57
Miscellaneous Cases		327
Advice Cases		103

Total..... 2644

LAWRENCE READ,

Dental House-Surgeon.

NATIONAL DENTAL HOSPITAL.

QUARTERLY STATEMENT OF OPERATIONS PERFORMED FROM JANUARY 1ST TO MARCH 31ST, 1879.

Number of Patients attended	2492	
Extractions {	Under 14	810
	Adults	1039
	Under Nitrous Oxide	104
Gold Stoppings	36	
Other Stoppings	436	
Advice and Scaling	272	
Irregularities of Teeth	76	
Miscellaneous	69	

Total operations 2842

British Journal of Dental Science.

LONDON, MAY, 1879.

THOSE of our readers who take an active interest in Dental politics must feel some suspense and anxiety as to the possible outcome of the attempt to start a British Dental Association.

We share that anxiety, and realize very fully the risk of undoing, to a great extent, the arduous work of the last twenty years; still we cannot but feel confidence in the committee who have been deputed to prepare this scheme.

In a matter of such serious importance, they are not at all likely to act with thoughtless and unseemly haste. We rather believe that the seriousness of the crisis is realised by most of them, and that they will deliberate with that caution and circumspection which the gravity of the situation demands.

We believe that their work will be facilitated rather than hindered by the free ventilation of opinion at this moment. Therefore we would urge our readers who hold distinct views as to the scope and limits of such an association to give expression to them in our pages. We have always sought to be the medium for conveying the wants and wishes of the profession generally, to those who, on different occasions, have been entrusted with the organisation and execution of important schemes of progress. The wisdom of this course must be patent to all, and in fulfilment of what we consider a public duty at this juncture, we again solicit correspondence upon the various points involved in the formation of the proposed association.

The benevolent educational scheme proposed by Mr. Dennant, to which we drew special attention in our last issue, is one so entirely practical, and likely to be so lastingly useful in its influence upon the profession, that we trust it will be carefully considered, and although in the exigency of the moment other matters may lay claim to prior attention, the impetus given to education by the adoption of some such scheme will be so considerable that, doubtless, it will receive, ere long, the attention of those amongst us who are interested in the promotion of practical benevolence. Later on we may have occasion to refer to this subject at greater length, but at present we must content ourselves with inviting a free enunciation of opinion upon this as upon other subjects likely at this crisis to affect, for good or for evil, the destinies of the profession.

Literary Notices and Selections.

ADDRESS DELIVERED BEFORE THE AMERICAN ACADEMY OF DENTAL SCIENCE, AT THEIR ELEVENTH ANNUAL MEETING, HELD IN BOSTON, OCTOBER 30TH, 1878.*

By CHARLES W. ELIOT, LL.D., President of Harvard University.

MR. PRESIDENT, AND MEMBERS OF THE AMERICAN ACADEMY OF DENTAL SCIENCE:—

In asking me, who am not a Dentist, to speak to you, you have determined beforehand, for yourselves, the subject of this annual address. You doubtless thought that, as it is my duty to watch the condition and observe the methods of professional education in general, and to study the means by which the liberal professions have been recruited, organised, and invested with dignity, my experience might enable me to make some useful suggestions concerning Dental education and the means of improving the state of the profession of Dentistry. At any rate, these topics are the only ones which my training and occupation fit me to treat before a body like this; so that your expectation and my desire to be of some service, however slight, to the Academy and the profession, both point to the same themes.

In comparison with the three professions ordinarily called learned, Dentistry is a new profession. It can hardly be said to have existed in this country for more than seventy years, or two generations of men. The elder professions of theology, law, and medicine have been forming their usages, gathering their traditions, and establishing themselves in the respect and confidence of mankind for centuries; and it cannot be expected that a profession so recent in origin as Dentistry should already have acquired as firm a position as theirs, or safeguards as effective as theirs against injurious influences from within and from without.

On the whole, the development of Dentistry in this country during the past seventy years has been extraordinary in many respects. The invention of numerous instruments and mechanical appliances of great ingenuity, the discovery of new processes, the increase in the number of Dentists and in the number of patients, the production of a Dental periodical literature and of many books upon Dentistry, and the creation and growth of Dental schools, are some of the most striking phenomena of this development. Many causes have, of course, conspired to produce so remarkable a growth; but among these causes four deserve special mention. In the first place, the laboratory and operating-room of every Dentist bear witness to the wonderful fertility of the American people in mechanical inventions. This fertility, with its many advantages, has one serious drawback,—it seems to have excluded or dwarfed all other kinds of inventiveness. Secondly, the American mind is singularly hospitable to innovations; that an idea, a thing, or a process is new, commends it to Americans as to no other people. Now, "every medicine is an innovation," as Lord Bacon says; and, much more, every extraction or filling of a tooth is an innovation—often a startling one. Thirdly, the lamentable carelessness of Americans about fresh

* The extreme liberality and opportuneness of this address, especially in regard to the position of Dental surgery in England at the present time, will, we feel, be an ample reason for our reprinting it *in extenso*.

air, exercise, and a healthful diet has had a great effect to promote the growth of Dentistry; for artificial teeth, and operations to delay the destruction of the natural teeth, are more needed here than in countries where the habits of the population are more wholesome. The European peasantry have small need of Dentistry. Moreover, artificial teeth give better satisfaction to people who, like most Americans, want to eat nothing but soft food, than they do to people who have hard food to masticate. Lastly, a moral cause—a compound of hopefulness and endurance—has been a potent one. Patience under present annoyance or pain, in the hope of a future advantage, is a national characteristic which has many manifestations. Many educated Americans habitually go to a Dentist twice a year, and submit to uncomfortable or painful operations, in the expectation of thereby securing a degree of exemption from future suffering which will leave the balance decidedly in their favour. An educated European, on the other hand, to the best of my observation, seldom goes to a Dentist, except for relief when his teeth actually hurt him, just as he waits to send for a physician until he feels sick. For these reasons, with others, Dentistry has grown faster in the United States than in any other country; and in Europe, for thirty years past, the art has been considered pre-eminently an American art, and the most successful practitioners in the European capitals have been American by birth or training.

If, then, the development of Dentistry has been, on the whole, so remarkable during the past seventy years, why is it that Dental magazines, and Dental societies in their discussions, are now constantly recurring to two subjects,—namely, the means of improving Dental education and of raising the profession in public estimation and its own regard? Are there real grounds for the anxiety which prompts the unceasing discussion on these subjects? For that kind of anxiety which induces action to avert threatened evils, there seems to be some real occasion. It is well known, in the first place, that thousands of rude, ignorant men have entered the profession, attracted by its apparent profitableness, and debarred by no law, no established usage, and by no intelligent discrimination of the public against uneducated practitioners. In the second place, it is not a favorable sign that the best literature on Dentistry is not of American origin,—that literature, namely, which manifests sustained scientific enthusiasm, and is the result of disinterested devotion to study, on the one hand, and to teaching, on the other. The condition of the Dental schools, which have been established throughout the country, gives another real ground of anxiety about the future of the profession. These schools receive but a small portion of the men who enter the profession; and they set before the young men who do enter them much too low a standard of attainment. As the future of a profession—whatever may be its present—is largely determined by the nature of the education which the youths who enter it receive, it is the condition of Dental schools—the organised means of education for the profession—which should first engage the attention of those who wish to place Dentistry on a level with the learned profession. All the evils which threaten the profession would gradually but surely disappear, if Dental schools could be made independent, strict, and thorough, and public opinion could be so enlightened as to make the calling inaccessible or profitless to uneducated men. Let us, then, examine the various points at which American Dental schools admit of improvement.

The first fact which strikes one, at the outset of an inquiry into the methods and practices of Dental schools, is that most of them do not demand, as a qualification for admission, any preliminary education whatever. No matter how ignorant and untrained a man may be, most

Dental schools are open to him. Three schools, two of which are by no means of the strongest sort, state in effect that a knowledge of the ordinary branches of an English education is necessary for admission. This statement is obscure; but it probably means that candidates for admission must be able to read, write, and cipher. Until very recently, all the medical and law schools in the United States were in the same ignominious condition as regards accessibility to the ignorant; so that this disgrace is by no means peculiar to Dental schools. Among American professional schools, the theological schools alone, and not all of them, have escaped this degradation. The disastrous consequences have been brought to light only within recent years; for very few professional schools in this country are over forty years old, and it takes a generation, at least, to exhibit the fruits of mistakes in educational systems; but the consequences have been grave enough already to excite the alarm of the professions, and to induce leading schools in both law and medicine to institute admission examinations. It would be difficult to exaggerate the effect upon the estimation in which the professions of medicine and Dentistry are held, of the fact that, until within two years, these professions have been accessible to men who could barely read and write, and have been actually entered by thousands of persons who never received, at school or college, the early training which, in the great majority of cases, is an essential preliminary to a life of refinement and cultivation. It is the more important that Dentists should be cultivated men, because Dentistry is a calling necessarily pursued for the most part in cities and large towns, and because, on the whole, the profession relies for its support upon the educated part of the community. Like the physician, the Dentist comes into more or less confidential relations with his patients, although he never is obliged to take the heavy responsibility which now and then is suddenly laid upon the physician. To be the equal or the superior of his patient in general cultivation is most desirable for a Dentist; he should be as gentle in speech and manners as in touch.

The English Parliament has lately enacted (Dentists' Act, 1878, 41 and 42 Vict. c. 33) that Dentists in Great Britain and Ireland shall hereafter be persons approved and licensed by competent professional bodies, and registered by government; and, in England, the authorised licensing body (the Royal College of Surgeons) has already prescribed a preliminary examination in arts, which all candidates for admission to the Dentists' Register must pass before they begin their professional training, unless they are Bachelors of Arts, or have passed certain specified university examinations. This examination covers English, Latin, arithmetic, algebra, geometry, geography, and English history, and any one of the following subjects at the candidate's option: Greek, French, German, mechanics, chemistry, and botany and zoölogy. The examinations are all elementary in character, but their range is considerable. There is no need of argument to prove that such conditions of entrance as these will, in the course of twenty years, greatly improve the quality of the mass of the profession in England; and it is the mass, and not the few persons of exceptional gifts, that educational regulations are always intended to affect. If American Dentistry, as a profession, is to maintain its rank in the world, it must be defended by similar requisitions against the incursion of uneducated men.

It is undoubtedly within the power of the profession itself, if it be so minded, to procure the establishment of admission examinations at Dental schools. The force of a concentrated public opinion in any profession is very strong; and it need not be the opinion of the majority, if only it is the opinion of the more intelligent part of the profession

forcibly and incessantly expressed. The great improvements in medical education, which have been made by a few schools in this country since 1871, illustrate strikingly the effectiveness of professional opinion, when exerted for the purpose of directing into better ways and to higher ends professional education. These improvements might not have been attempted but for the urgency of the best part of the medical profession, and they certainly could not have been successfully carried into effect without the steady and hearty support of the profession as a whole. Again, the standard of admission to the bar in the state of New York has been much raised within eighteen months, solely by the force of professional opinion made effective in the legislature and the courts; and this was accomplished not only without the help of the local law schools, but in spite of all the influence they could exert. The fact is, that any profession, if it is in earnest, can find weapons with which to defend itself against deterioration. It should be borne in mind that it would be sufficient to regulate properly future admissions to the profession. If the future be made safe, the evils of the present can be patiently endured. In surprisingly few years, the well-educated young men would push out those older untrained practitioners whom not even the practice of many years had much informed.

But if this absence of a preliminary examination to secure some degree of liberal education is an evil common to most schools of law and medicine, as well as to Dental schools, this common lack will not explain the admitted fact that graduates in Dentistry do not stand on a level with graduates in law and medicine in public esteem. The reasons for this disadvantageous position of Dental graduates must then be sought elsewhere; and they are not far to seek.

The period of study for the Dental degree is decidedly shorter than for the medical degree or for admission to the bar. Three full years of medical study are required of candidates for the degree of doctor of medicine, and three years of legal study is the common requirement for admission to the bar. In most American Dental schools, two years is the period of study demanded of candidates for the degree, and one of these years may be replaced by five years of practice. Two schools have very lately required of candidates for their degree three years' study of Dentistry, and one other school has given notice that it intends to make that demand. On the other hand, two schools offer their degree upon examination after attendance upon a lecture course of four months' duration, without further inquiry into the candidate's qualifications. During the two years which constitute the common period of study, the Dental student must give a large part of his time to the acquisition of manual skill. For those studies which cultivate and enrich the mind, the ordinary period of Dental education gives small opportunity indeed. The alert intelligence, the scientific habit of thought, the power of original investigation—precious products of prolonged study—the Dental student cannot hope to acquire during his brief apprenticeship. The training which an intelligent and faithful student of medicine receives during his three years of study is very valuable, regarded merely as intellectual discipline. Even if his preliminary education has been neglected, the assiduous medical student has some chance of acquiring power of application, and the habit of scrutinising phenomena, and comparing and reflecting upon facts. The Dental student has no such opportunity of culture; his time is shorter, and he must learn to use his fingers and his instruments. It is clear, therefore, that the public is quite right in setting the average graduate in Dentistry below the average graduate in medicine; for the young Dentist has not had more than half of the mental training of the young physician, and must

be his inferior both in acquired knowledge and in disciplined power. A prolongation of the period of Dental study is absolutely essential to the establishment of the profession upon an equality with the older professions.

Again, the Dental schools have copied from American medical schools the irrational division of the year into a full term, a winter session, and a spring term. The fall term is a disconnected fragment: the winter session is supposed to be complete in itself, and therefore inevitably becomes an indigestible mass of lectures and demonstrations, crowded one upon another, and repeated without essential change year after year; while the spring term is another fragment, which is neither complete in itself, nor designed to complete what has gone before. Attendance at the winter session only, if once repeated, suffices for graduation, though this obligatory session is in many schools but four months long, and in none more than five and a half months. The Harvard Dental School stands alone in renouncing completely this division of the year, and carrying its instruction consecutively through the academic year, from October 1st to July 1st. For the orderly and progressive treatment of great subjects like anatomy, physiology, and chemistry, it is difficult to imagine a worse division of the academic year than that which has so long prevailed in American medical and Dental schools. In their medical schools, Harvard University and the University of Michigan have completely abandoned this unprofitable system, and the University of Pennsylvania is in the way to abandon it. It will be a good day for medical and Dental education, when all respectable institutions have adopted the rational method of giving progressive instruction throughout the year.

Many Dental schools accept five years of practice as a Dentist, instead of one year of study of Dentistry, thus still further reducing the already small amount of intellectual training required for the degree. If a man can bring evidence that he has practised Dentistry five years—no matter how ignorantly—he can obtain the degree of one of these schools by attending a single winter session. Is not the public right in regarding the American Dental diploma as small evidence of general culture? Is it always good evidence even of thorough acquaintance with Dentistry? Five years of such practice as a person without education is likely to have will afford but limited opportunities for clinical observation and study, compared with those which six months spent at a well-conducted school would supply; and the ignorant practitioner, left to himself without the guidance of experienced teachers, is in no condition to profit even by those opportunities which offer.

The most carefully administered Dental schools, like all medical schools, give weight to practitioners' certificates of time spent in professional study by young men under their charge or observation. The precautions observed in receiving these certificates are too often inadequate. In the first place, these certificates are generally written at the time the student presents himself for graduation, and they therefore reach back over a preceding period, which is often three years long. In large schools, it frequently happens that the certifying practitioner is a stranger, living, perhaps, far away, and of unknown competency as an instructor. It is nowadays an admitted fact that physicians and Dentists in full practice are seldom willing to give personal instruction to private pupils: they can use their time to better advantage. Accordingly, many certificates are accepted from private practitioners in a form which does not testify that the student on whose behalf the certificate is given has received any personal instruction from the signer, but simply alleges that the young man has pursued professional studies under his observa-

tion. Two improvements in this system are much to be desired: the first is, that the commencement of medical or Dental study should be certified to at the time, and not years afterward, by the practitioner who has cognizance of it; and that the student's time should count only from the reception of this certificate at the school where he matriculates; the second is, that certificates should be received only from practitioners who have facilities for giving clinical instruction through their connection with hospitals, asylums, dispensaries, infirmaries, or like establishments, in which opportunity for giving practical instruction is afforded. Both these securities are obtained in England, and there can be no question either of their feasibility or of their value.

A word may be added in regard to a much needed change in the prevailing method of examining for Dental degrees. All examinations for professional degrees should be public, in the sense that the questions asked should be accessible to the public, and the answers of candidates should be subject to the inspection of professional men who have not been the teachers of the persons examined. An oral private examination affords no guaranty whatever of the worth of a diploma. If Dental societies and legislatures propose to make the possession of a Dental diploma an essential preliminary to admission to practice, they will do well to insist in the first instance upon the publicity of examinations for the Dental degree.

Finally, it is much to be wished that a moderate number of Dental schools might be sufficiently endowed to be reasonably independent of students' fees. With the exception of the Dental school of the University of Michigan, which is mainly supported by the State, the Dental schools are dependent for support upon tuition and graduation fees; and so they are tempted to keep their requisitions low, to the temporary pecuniary advantage of the schools, but to the grave injury of the profession and the community. No form of professional education is so little endowed in this country as Dental education; partly, no doubt, because of the newness of the calling, and partly also because the need of thorough education for this profession has only lately been brought home to the public mind.

I take up next a subject which has often engaged the attention of Dental societies, and been discussed in the periodicals of the profession; namely, the relation between the degree of doctor of medicine and the degree of doctor of Dental medicine or Dental surgery. Many eminent Dentists have regretted the institution of a special Dental degree, and have maintained that every Dentist should be a doctor of medicine. Let it be granted at once, as a fact beyond dispute, that the full training of a physician and surgeon would be useful to a Dentist. He who should follow the three years' course for the doctorate in medicine, and should then give eighteen months or two years to the peculiar studies of Dentistry, would be a much better trained man than he who has given but three years in all to professional study. But it is obvious that only those who have extraordinary zeal, and an unusual amount of money to expend upon their education, will pursue that excellent course. Young Americans who intend to be Dentists are, as a rule, by no means ready for such deliberate thoroughness as is implied in the suggestion that they should first qualify themselves as physicians or surgeons, and afterwards as Dentists. On the contrary, they are still expecting to be qualified as Dentists in two years or less, and the greater number of Dental schools are still encouraging this expectation. Whether or not the Dentist shall take the doctorate in medicine is at present a practical question in this country only where the Dental candidate for the medical degree is permitted to substitute in the three years' course for this

degree all the peculiar Dental studies for as many proper medical and surgical studies.

To arrive at a clear opinion upon the propriety of allowing such substitutions, and of conferring the one degree of doctor of medicine for courses of study which differ materially, it will be necessary to consider how far medical and Dental studies are identical, and how far they are diverse. The fundamental subjects of anatomy, physiology, chemistry, and physics are, indubitably, common to both courses of study; and it will generally be admitted that *materia medica*, oral surgery, a considerable part of pathological anatomy, and histology including microscopy, should also be common to both; but, when in the three years' course the time comes for extensive clinical study and the acquisition of manual skill, the two trainings at once diverge. The Dentist needs much technical knowledge and skill which the medical or surgical practitioner never has occasion for; and, on the other hand, the physician or surgeon will daily avail himself of information and experience, for which the Dentist will never have any use. Supposing the medical and the Dental course of study to be each three years long, not more than three fifths of the studies appropriate to the two courses are common; at least two fifths are diverse.

Unlike degrees in arts, which merely indicate a certain amount of liberal study, no matter in what subjects, professional degrees should plainly declare the precise sort of training for which they stand. Since the training of a Dentist upon a three years' course of study is in good measure different from that of a physician or surgeon, it may well culminate in a special Dental degree, easily distinguished from the degree in medicine; just as the difference between the training of a civil engineer and of a mining engineer is wisely marked by the use of two degrees, which indicate that the trainings for these scientific professions are in good part diverse, though also in good part common. It is important to the community that the degree of doctor of medicine should have an unmistakable significance: it should signify that the person thus designated has pursued certain professional studies, to the satisfaction of a competent faculty. Now, if a person who has only pursued three fifths of the appropriate studies is to have the degree of doctor of medicine, the significance of that degree is obscured and impaired. Moreover, the community will have no certain evidence that the Dentist who holds the diploma of doctor of medicine, and not that of doctor of Dental surgery or medicine, has ever pursued any Dental studies at all. In short, by permitting the use of the one degree of doctor of medicine to designate both physicians and Dentists, the community would lose in regard to both professions certain securities which it now possesses.

In the light of these obvious facts let us consider the recent announcements of certain Dental schools, in combination with certain medical schools, that they will give the degree of doctor of Dental surgery *and* the degree of doctor of medicine for the same three years of study. Now it is admitted on all hands that three years is not too long a period of training for the degree of doctor of medicine, when the whole time is devoted to proper medical studies; and the best opinion is that three years is not too long a time to give to the professional education of a Dentist, the whole three years to be given to appropriate studies and the acquisition of manual skill. Again, we have just seen that not more than three fifths of the subjects appropriate to these two professional courses of instruction are common to the two. Hence it follows that, when the two degrees of doctor of medicine and doctor of Dental surgery are given for the same three years of study, the standard of one

or other of the degrees is lowered to a deplorable extent. Beyond a doubt, it is the medical degree which suffers in the first instance; for the standard of that degree is at present higher than that of the Dental degree. Indeed, it is not too much to say that the medical schools which have entered into this arrangement manifest in so doing a want of respect for their own degree. They may in this way contribute for a few years to the better education of an inconsiderable number of Dentists; but in doing this they obscure the meaning and impair the value of the medical degree, and they hinder the regeneration of the Dental schools proper. The injury they thus do to the community by sending out imperfectly educated men bearing the title of doctor of medicine, but not properly prepared to practise the profession, is vastly greater than any benefit which can result from their action, either to their own treasuries or to the Dental profession. It is matter for profound regret that reputable medical schools have adopted, perhaps without distinctly perceiving its consequences, this most unwise and discreditable policy.

At the time of the establishment of the Harvard Dental School in 1868, the question was much discussed whether it would be better to institute Dental professorships in the medical school, and let that school give a special Dental degree, or to create a separate Dental school with its own faculty, course of instruction, and degree. This question is, however, a question of form rather than of substance; and concerning these different forms of university organisation there may well be two opinions as to which is the better. The substance may be secured under either form; and the substance is, that the special diploma which testifies to the public that the holder is an educated Dentist shall be procurable only by devoting three years under competent guidance to the appropriate study, clinical observation, and manual practice.

Let me next ask your attention to a brief discussion of some means of elevating a liberal profession which are not educational. Of these, the first which I wish to speak of is protective legislation. In civilised and populous communities, it is possible to exclude by law uneducated persons from the practice of learned professions. The governments of continental Europe have for generations regulated admission to the professions of law and medicine with great strictness. In England, the organisation of these professions has resembled that of guilds recognised by law. In this country, until within recent years, the learned professions can hardly be said to have had any protection at all against the incursion of uneducated men. The time has come, however, when even the newer American States perceive the importance of preventing quacks and impostors from tampering with the health of the population, and of excluding from the fiduciary profession of the law men whose capacity and honour have not the foundation and visible guaranty of good education. Accordingly, it is desirable that the opinion of the professions should be wisely formed and consistently expressed as to the best methods of securing due protection by law. The centralised method adopted in continental Europe—the method of government examinations for admission to government registers—is not applicable in this country, being consonant with neither our political institutions nor our social conditions. A system of examination and registration conducted by the government of the United States is not to be looked for: first, because it is no part of the constitutional business of the national government to regulate the professions; secondly, because the different states and territories have different needs; and, thirdly, because the chance is small that the national government would appoint competent and impartial examining boards in a manner to

command the respect of the professions. State legislation must therefore be relied upon. But the State governments are unfitted by their popular and unstable character for the direct conduct of such business as the wise regulation of the learned professions. They almost necessarily delegate that function to professional bodies, acting under laws of a general character. Thus, the right to admit to the bar is placed in the hands of the courts; and chartered medical and Dental societies have received from legislatures the exclusive right to license persons to practise medicine or Dentistry. For example, the Statutes of New Hampshire provide that "it shall not be lawful for any person, who is not duly authorised to practise medicine or surgery, to practise Dentistry, unless such person has received a Dental degree from some college, university, or medical school authorised to confer the same, or shall have obtained a licence from the New Hampshire Dental Society" (Chapter CXXVI, Sect. 3); and this Society is duly authorised to appoint examiners whose duty it is to examine and license persons to practise Dentistry. The Massachusetts Medical Society, incorporated by the State in 1781, affords an admirable demonstration of the degree of protection which a learned profession can secure under the authority of the legislature delegated to a professional organisation. It is through legislation of this kind, which entrusts the right to license to professional bodies, that a defence against ignorance—not complete by any means, but still of great value—may best be secured for the professions of medicine and Dentistry in the States of the Union. A State Register would be likely to become a sanctuary for quacks and empirics of every sort; for professional education is not one of the subjects upon which the popular judgment is valuable, or which may wisely be left to the decision of a majority vote; and legislatures, if well constituted for their ordinary functions (as we must assume them to be), would certainly be unfit to determine what are the proper qualifications for the practice of medicine or Dentistry, and would in all probability admit to registration with a freedom which would make the register rather a refuge for ignorance and imposture than a barrier against them. The just regulation of the learned professions requires steady action upon a definite policy through a long series of years. Now, it is just such sustained action which is the most difficult for popular assemblies; so that the delegation of their powers to more permanent organisations is wise and necessary in cases where a far-reaching policy is to be unfalteringly pursued. It should not be forgotten that legislation of the restrictive character desired may be much more easily procured if it be made to apply only to the future. It then becomes the interest of all persons already established in reputable practice to promote such enactments, whereas retroactive legislation cannot but provoke opposition and do some actual injustice. As has been already said in another connection, the main point is to secure the future of the professions.

So young a profession as Dentistry may well look, in searching for means of exalting the calling, to the experience of the elder profession of medicine. It cannot fail to be observed that one of the things which makes the profession of medicine a liberal profession is the zeal for scientific research which animates its representative men throughout their lives. This admirable zeal to discover truth and to make it prevail, the profession of Dentistry must emulate—indeed already emulates. In this zeal is to be found, on the one hand, evidence that the profession is entitled to call itself liberal, and, on the other, security for steady growth and improvement.

We see also in the medical profession the great fact of gratuitous practice. I find nothing in the work of missionaries among the heathen

nobler or more disinterested than this gratuitous practice by physicians and surgeons among the poor and wretched. It is one of the most admirable of charitable works, and demonstrates with singular force the true liberality of the profession. Many physicians and surgeons of the highest standing give hours every day to hospital, dispensary, or infirmary practice, actuated by the hope of serving their fellow-creatures, by enthusiasm for research, and by desire for self-improvement and for the greater power of doing good which in the practice of medicine follows immediately from any increase of knowledge or skill. The establishment of infirmaries in connection with Dental schools has given some Dentists opportunities for gratuitous practice; and some hospitals have given still larger opportunities by including among their out-patients departments a Dental infirmary. But much still remains to be done before Dentistry can claim equality with medicine in this respect. The profession may well urge the establishment of gratuitous Dental departments in public hospitals, children's asylums, and reformatory schools; the actual labour of such services would fall chiefly upon young practitioners, the supervision being exercised by older men.

There is another common attribute of good physicians and surgeons which has had great effect to elevate and liberalise their profession,—I mean their characteristic zeal for teaching. This zeal is manifested not only in giving direct instruction to medical students, but in imparting to medical societies and the public every important fact observed, every useful practice invented, and every suggestive opinion or promising theory conceived. The constant desire and purpose on the part of its members to teach, to impart to all any peculiar knowledge which each may acquire, is one of the principal distinctions between a liberal profession and a trade. Dentistry would have no claim to be called a liberal profession did not its practitioners manifest this zeal for teaching. In this respect a great change for the better has taken place in the profession during the past twenty years.

Associated action in Dental academies and societies is an efficacious means of strengthening the profession. There is wonderful force in association for the pursuit of common objects, and for the interchange of thought upon matters of common interest. The members of any learned profession are necessarily sundered by personal interests which must sometimes clash; they should be united by a strong professional spirit. Organisations for scientific and social purposes promote a good understanding between their members, diffuse the best professional opinions, maintain a just professional etiquette, and give effect to the weightiest professional character. Dental societies might answer another very important purpose: they might create and maintain a system of recording the life-histories, so to speak, of the teeth of individuals who have been under observation from infancy to age. The prolonged life and permanent records of societies are obviously necessary for this purpose. Many persons employ one Dentist in youth, another in middle life, and a third in age; so that the complete record of any one case might well require the co-operation of three observers. The single practitioner cannot record the life-history of the teeth of any of his patients who live to be old; his old patients he did not know in their youth, and his young patients he will not see in their age. As many of the processes of Dentistry must still be regarded as experimental, and as many years are often required to bring even a single Dental experiment to an issue, a body of trustworthy facts thus accumulated by permanent professional societies would, in the course of generations, become of great value by supplying decisive means of discriminating between good processes and bad, good materials and bad, wise treatment and foolish. If it be

objected that the life-records of hundreds of thousands of cases would be so bulky as to be practically inaccessible and therefore useless, the answer is, that the modern methods of cataloguing, indexing, and summarising are quite capable of surmounting that difficulty. In short, Dental societies might systematically collect, record, and transmit the experience of the profession.

Perhaps it seems to you, gentlemen, that the measures which I have ventured to suggest, and the hopes which I entertain, are extravagant and visionary; but let any one who doubts about the progress which the near future has in store, consider what the recent past has seen accomplished. We would not ask more than this,—that the progress of the next ten years may equal the progress of the last ten. Of the changes in Dental schools which I have advocated, the larger number have been already in part introduced, and the rest have been thoroughly proved in the schools of the kindred profession of medicine. The other means of elevating the profession which I have mentioned are not untried; on the contrary, their value has been demonstrated in the actual experience of other professions. Does it seem to any of you that the best part of your profession has no weapons with which effectively to attack abuses entrenched behind the self-interest of the few who profit by them? Let me assure any such doubters that public discussion is a weapon very formidable to those who for selfish ends maintain abuses or resist improvements. Instructed by the history of the professions of law and medicine, let us confide in the power for good of the public sentiment of the profession, expressed in societies like this, in Dental journals, and in daily conversation, and reinforced by the informed opinion of the educated public.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, APRIL 7TH, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

MR. R. STRATTON COLES, of Princes Square, Plymouth, was elected a member, and the following gentlemen were proposed as candidates for election: Messrs. Thos. A. Roberts (Charlwood St., Belgrave Road, London), Edward Fothergill (Newcastle-on-Tyne), Edward G. Betts (Holloway), Chas. D. Cooke, M.D. (Brooklyn, New York), George L. Parmelee (Hertford, Connecticut), and G. T. Moffatt (Boston, U. S.).

MR. RANGER exhibited an upper denture to which a piece of stout gold wire tipped with gutta percha was attached, serving as a support for the nose in a case of syphilitic disease of the septum. The patient for whom it was made was a young man twenty-two years of age, who had been under the care of Mr. Croft at St. Thomas's Hospital. Mr. Ranger had been asked to extract a number of suppurating

stumps, and then to provide the patient with an artificial denture. Three months later Mr. Ranger consented, at the patient's earnest request, to add a support for the nose. Part of the hard palate and the whole of the nasal septum had been lost by necrosis, so that the nose laid almost flat on the face. After some trouble Mr. Ranger succeeded in getting a very satisfactory result. The patient could introduce and withdraw the plate without difficulty, and had now worn it for five months.

Mr. OAKLEY COLES said that a case was recorded in Johnson's 'Dental Miscellany' which Dr. Norman Kingsley, of New York, had treated in a precisely similar manner, but he thought that the shape of the support used by Dr. Kingsley was preferable to that used by Mr. Ranger; his had a double curve like an old fashioned *f* or *s* (*∩*), instead of the single parabolic curve seen on Mr. Ranger's apparatus; thus the whole of the weight was not borne on the extremity of the wire, and the possible danger of ulceration was avoided.

Mr. RANGER said he had not previously heard of Dr. Kingsley's case, but it must be evident that the shape of the support must depend upon the circumstances of the case. In his case it would be quite impossible to introduce an arm of the shape drawn by Mr. Coles through the aperture in the hard palate, indeed, he had only settled on the curve after many trials, and during the five months which had elapsed since he made the addition there had been no irritation or ulceration caused by the point of the wire.

Mr. OAKLEY COLES then described a plan he had made use of for some time in filling large crown cavities in molar teeth. Having excavated the cavity he placed a little spongy gold at the bottom, and on this a plug of gold wire cut to the proper length and shaped like a dice box, a rope of gold was wound round this and condensed, the rest of the cavity was then filled up in the ordinary way and finished off with a burr. In this way a very solid plug could be formed in less time and with less labour than by the usual methods of filling.

Mr. COLES then exhibited a small sarcomatous tumour attached to the root of a molar tooth. On extracting the tooth the growth came away with it. At first sight it looked like an ordinary abscess sac, but on closer examination it proved to be a solid fleshy mass, and under the microscope exhibited the characters of a round-celled sarcoma. To judge from the literature of the subject such tumours were very rare; they were only just mentioned in Mr. Tomes' work, and the only detailed account he could meet with was a memoir by Dr.

Magitot, of Paris, who had collected particulars of eighteen cases. He thought, however, that possibly they might not be so rare as was generally supposed, but that owing to their close resemblance to the sac of an ordinary alveolar abscess they might often be thrown aside without examination, and thus escaped recognition.

Mr. COLEMAN remarked that growths from the periosteum of the jaws certainly appeared to be more common than had formerly been supposed. Besides epulis and cystic tumours which originated in the periosteum there was the so-called hypertrophy of the gum, which Mr. Tomes had shown to spring from the periosteum within the margin of the tooth sockets, and now Mr. Coles called attention to another form of growth which had hitherto almost escaped recognition, but which there was some reason to believe might not prove to be very rare if only it was carefully looked for.

Mr. HUTCHINSON said he should in future examine all growths on the roots of teeth more carefully than he had been in the habit of doing hitherto. It was usual to call a growth springing from the periosteum at the margin of a tooth socket an epulis. Mr. Coles' specimen appeared to spring from the periosteum over the root of the tooth; both were sarcomatous tumours, though the common epulis was generally of the spindle-celled variety.

Mr. GADDES said that sarcomata were usually divided into three classes—the round-celled, the spindle-celled, and the myeloid, and the round-celled was generally considered the most malignant of the three. The term epulis he should like to see abolished, it had no definite meaning; and he should like to see tumours of the jaw classed according to their anatomical structure in the same way as growths affecting other parts of the body.

Mr. COLEMAN then read a communication from Mr. Robert Waller, of Cairo, describing his successful treatment of a case of gunshot injury of the palate. The patient, an Egyptian gentleman, had a considerable aperture in the hard palate, the result of a bullet wound received about twenty years ago. An attempt had been made to close the opening with a bone plate, but the air entering behind the plate from the nose deprived it of atmospheric adhesion, and it was consequently insecure and unsatisfactory. A cast had been taken, or rather attempted, by another Dentist, with a view to making a better plate, but some of the plaster became set in the opening in the palate, and it took a surgeon three days to cut it away piecemeal; of course, with considerable pain to the patient, who declined any further operations for the time. Mr. Waller guarded against a repetition of this

accident by closing the aperture with some Stent's composition; when this was withdrawn with the plaster an excellent cast of the upper jaw was obtained. From this Mr. Waller made a vulcanite plate, attached to its upper surface a vulcanite stud to pass through the aperture in the palate, and capped it with a soft rubber-washer. This, covering the nasal margin of the opening, effectually prevented the passage of air from this direction, and perfect atmospheric attachment was obtained.

Mr. OAKLEY COLES said that in taking a cast of a case of perforation of the palate he always covered the plaster with a piece of gold-beater's skin. This prevented the plaster from getting into the nose, whilst at the same time a good impression of the margin of the aperture was obtained.

At the request of the President, Dr. MORISON described his method of filling roots. He had been told by Mr. Tomes that shellac was commonly used for the purpose in this country, but he thought it objectionable because you could not tell where you were forcing the lac to; you might not send it far enough, and so not fill the canal completely, or you might force it beyond the apex into the cancellous tissue. For this reason he and most other practitioners in America always used gold wire for the purpose. The thickness of the wire must be carefully adapted to the size of the root-canal; having selected the size he thought suitable, he fixed it in a holder made for the purpose, and passed it into the canal. A little practice enabled one to judge exactly how far it ought to go; if it did not go far enough a touch of a file might make it right; if it passed too far it must be replaced by a larger size. If it seemed to fit accurately he withdrew it, notched off with a sharp file sufficient to fill the apical third of the canal, and having dipped it into liquid gutta percha or thin osteo, quickly reinserted it into the root. He then fixed it with a tap of a mallet on the holder, and on giving the latter a twist, the wire broke at the notch and the apex of the canal was left securely closed; the rest was then filled up with osteo. The results of this plan of treatment had been so satisfactory, that he felt sure the troubles which others complained of as incidental to root-filling must be due to imperfect closure of the canal.

Mr. WEISS showed a model of the case of transplanted lateral incisor, the particulars of which he had given at the previous meeting. The operation was performed in August, 1877—a year and eight months ago, and he had satisfied himself by recent inspection that the tooth was still firm and healthy.

Dr. FIELD then read the paper of the evening on "Gold

filling." The avowed object of the Dental speciality was the conservation of the dental organs by the best known means, and these should be determined upon after due consideration of the circumstances of the case as conscientiously as the physician selects his remedy for more general diseases. The desire of the operator to make a display of his skill and taste must be tempered by an appreciation of his duty to the patient, viz. to secure by the best possible means the greatest practical result. This might sometimes be best accomplished by the use of gold, frequently by the use of plastic materials. He should that evening confine his remarks to the best modes of dealing with the first-named material. He did not confine himself to the use of either soft or cohesive gold, but if called upon to choose between the two the latter would be his choice. For with it, in these modern times, more teeth could be saved than with the other form. In generations past soft gold had done a noble work, but with the present generation the conditions were entirely changed; cohesion was now steadily coming to the front, and must inevitably prove itself the material of the future.

Dr. Field then proceeded to describe in detail the filling of a crown cavity in a molar. The attention of the patient had been drawn to the tooth by slight occasional pain in mastication. On examination some dark lines are seen on the enamel round the central depression, and by the use of a Terry's explorer we find that these dark lines indicate fissures, the floor of which is composed of softened dentine. Having, by the aid of a keen-edged excavator, or chisel, and mallet, exposed the cavity, he would cut to the required depth with a drill in the dental engine and follow this with a square-end fissure burr to secure vertical walls and a flat base to the cavity; lastly, the rough edges of the enamel must be smoothed by the use of a fine-cut polishing burr and a stick with emery powder used in the engine. It was not sufficient to fill the hole in the central depression and to leave the terminal ends of the fissure untouched. To leave such fissures unfilled was to leave canals leading direct to the base of the filling, which would inevitably ruin the best work, and do it so secretly that in many cases the pulp would be involved before the danger was discovered. Having now a cavity with strong vertical walls and polished enamel edges he should proceed to fill it with gold in cylinder form. Every means must be employed to secure a dry cavity, either by the use of the rubber dam or of a blotting-paper pad over the mouth of the parotid duct, together with Mr. Charles Rogers' shield and saliva ejector. He should use Williams' New Style B Cylinder made of non-cohesive, smooth-surface

foil; having selected a cylinder of proper length and of a diameter to fill the posterior arm of the cavity, he carried it well home with the first carriers and condensed it with Kirby's pneumatic mallet; the rest of the arm is filled with succession cylinders condensed in the same manner. To fill the lingual arm is more difficult, as also is the labial or buccal, but with a cork-screw-foot instrument, right or left, the operation is made easier. The anterior arm only is now left open; this may be filled in the same way as the others, working from within outwards until there remains only a small pit, this may be filled with adhesive gold to act as a key to the filling. No surface condensing would be found necessary, all that remained was to cut away surplus gold by the use of finishing burr and polish with rubber-wheel and emery.

Dr. Field next went on to describe the filling of a cavity on the distal surface of a molar. The first step is to remove all suspicious marginal enamel, and as, in the majority of these cases, caries has made considerable progress before the mischief is discovered, the coronal enamel is usually undermined and weakened; it is better, therefore, to cut away this enamel as well, and thus obtain free access to the cavity. Space is of great importance in these cases; if the teeth are in very close proximity a dressing of cotton wool and sandarach must be introduced and left for a few days to act as a wedge. All doubtful dentine must then be cut away unsparingly, except over the pulp, where, if not softened and pasty, it is best left alone; if disintegration had gone so far that some protection was necessary he had found court plaster as efficient a non-conductor as anything he had yet tried. All enamel which is unsupported by live dentine must then be cut away, the edges bevelled slightly outwards, and the margin of the cavity smoothed and polished as before described. Then with a very small drill he makes a starting-point at the buccal and lingual corners of the cervical wall, he would also cut a very slight groove in the two vertical walls with a fine fissure burr from these starting-points to the crown; in many cases a mere scratch with a diamond excavator would suffice. After adjusting the rubber dam over at least four teeth all was ready for the gold. He used Rearing's cohesive gold, and believed it to be the most uniformly cohesive now made, R. S. Williams' being next. Two sheets of No. 4 are folded twice or cut into narrow strips one to four lines in breadth and about an inch in length. With a mouth-glass and one of "Ambler's assistants" in one hand and Webb's electric plugger in the other, we introduce and thoroughly condense the gold into the starting-point and across the cervical wall, connecting

these points and forming the base of our filling. The gold is carried out to and over the edge of the cervical wall, and by a delicate application of the electric plugger is cut smoothly off even with the margin. To avoid injury to the enamel or dentine margins care must be taken to prevent the point of the plugger from coming into contact with them—always have gold intervening. Having a solid foundation and the cervical margin well covered, nothing remains but to build up the entire cavity, exercising the same care as to the contact of the instrument with the enamel, and being careful, also, to force the gold into direct contact with the walls. The finishing is not the least important part of the operation; all overhanging edges of gold must be carefully removed, the surface of the filling filed flush with the margins of the cavity and then polished with emery cloth.

Dr. Field then went on to remark that all this trouble would be vain unless the necessity of careful prophylactic treatment was strongly impressed upon the patient; the most perfect stopping would fail in a very short time from no other fault than the uncleanly habits of the patient. It was not sufficient merely to tell patients to *brush* their teeth; they must be shown how to *clean* them, and the absolute necessity of cleanliness must be thoroughly and systematically insisted on.

The practical deductions which he would draw from his own limited experience were, that cavities with strong walls may be filled quickly and well with cylinders; but that cohesive gold is the best material for cavities with weak walls, or where a contour is needed, as when the cavity extends below the margin of the gums.

The PRESIDENT said that the paper was a valuable one, coming from one who had had such large experience of gold work, and the best thanks of the Society were due to Dr. Field for it. The only criticism he felt disposed to make was that Dr. Field seemed to him to make very light of the difficulties incidental to gold filling. How, for instance, did he get rid of the sensibility of the cervical margin?

Mr. COLEMAN said he felt satisfied that large cavities could only be successfully stopped with adhesive gold, and by using this with scrupulous care; with this material it was possible so to adjust the pressure as not to bear unduly upon weak walls. In former days gold was the only stopping known, and was used for all cases and under all circumstances; now, amongst the numerous substitutes which had been invented, he thought there was some danger of running to the other extreme, and of undervaluing its many good qualities.

Mr. HUTCHINSON asked Dr. Field to describe a little more fully his mode of filling the anterior or mesial arm of a surface cavity, since this was the point at which failure most commonly occurred. He should be glad to know also how long Dr. Field had known a crown built up of cohesive gold and fixed by retaining screws to last?

Mr. READ asked what material Dr. Field had found most suitable for wedging teeth apart. He had found that this operation caused almost intolerable pain to some patients.

Mr. MOON asked whether Dr. Field did not think that the use of the electric mallet sometimes necessitated an undue sacrifice of enamel. In the case of a front tooth, for instance, he thought it was a pity to cut away the labial enamel if it could possibly be avoided.

Dr. FIELD said that with regard to the sensibility of the cervical margin he found that this was much lessened by the use of the rubber dam; if it was still sensitive he applied a crystal of carbolic acid, and occasionally it might be necessary to repeat the application several times. He thought he had described the filling of the anterior arm of the surface cavity at sufficient length. It was filled last but with cylinders, in the same way as the rest of the cavity, a straight foot instrument being used; it was important to have the walls quite vertical. It was difficult to answer Mr. Hutchinson's second question, since his professional life had been divided about equally between the United States, Geneva, and London. He had therefore been unable to keep many of his patients in view. He had, however, recently seen a gentleman for whom he had built up a molar crown six years ago at Geneva, and the work was still perfect. As to wedges, he used all sorts of materials—hard wood, soft wood, rubber, cotton wool, floss silk, &c., but it certainly was a painful operation to some patients whatever material might be employed. As to cutting away the labial enamel he should not do it unless it was necessary, but he thought it was a mistake to risk the success of the operation and the possible loss of the tooth for the sake of a doubtful gain in personal appearance.

The meeting then terminated with the usual vote of thanks.

ODONTO-CHIRURGICAL SOCIETY.

ANNUAL MEETING, HELD 13TH MARCH, 1879.

DAVID HEPBURN, Esq., L.D.S., President, in the Chair.

THE minutes of the previous meeting, as also the Treasurer's report, having been read and approved of—

On the motion of the President, seconded by Mr Finlayson,

the following gentlemen, recommended by the Council, were elected office-bearers for the Session 1879-80 :

President—W. Campbell, L.D.S. (Dundee).

Vice-Presidents—C. Matthew, Esq. ; J. R. Brownlie, Esq., L.D.S. (Glasgow).

Treasurer—P. Orphoot, Esq., M.D.

Secretary—A. Wilson, Esq.

Curator—G. W. Watson, Esq.

Council—D. Hepburn, Esq., L.D.S. ; A. Cormack, Esq., L.D.S. ; W. R. Chisholm, Esq., L.D.S., L.R.C.P. & S.E. ; W. B. Macleod Esq.

Dr. WILLIAMSON then read his paper on “Retarded Eruption.”

Mr. President and Gentlemen,—When I was asked to give a paper to the Society, I was very unwilling to do so, principally on account of the difficulty of obtaining a subject, the discussion of which might go over ground that had not come under the special consideration of the Members. Naturally and properly enough, our meetings are generally taken up with the expression of views as to the best methods for the preservation of teeth in the various conditions in which they are presented to us for treatment, and such discussions, having so markedly a practical bearing on every day practice, are of the greatest benefit. Especially is this the case in regard to the behaviour of stoppings, whose name now is legion, and each new one is heralded by a flourish of trumpets, promising greater results than have ever previously been obtained. The recorded experience, thus obtained, proves extremely useful in the discrimination of the good and the bad, and helps us to discover what comes nearest to the ideal of the perfect stopping. But useful as the discussion of such matters is, it is well, perhaps, sometimes to take up something, which although not of great importance in practice, yet presents points of interest from a general point of view ; and such a subject I thought might be found in “Retarded Eruption,” about which I have made a few notes, principally in connection with some specimens and cases, and the consideration of which will not detain you long.

It is well known that, from various causes, teeth sometimes remain imbedded in bone, and may or may not appear externally during the lifetime of the individual. As a rule this condition does not produce any pathological effect, except in the comparatively rare instances of dentigerous cysts, where the accumulation of fluid between the enamel and the tooth capsule produces expansion and thinning of the surrounding bony walls, giving rise to the appearance, externally, of a tumour. The well-known case of M.

Maisonneuve affords a good typical illustration of a cyst arising from this cause. The wax model shown is a fac simile of a portion of the lower jaw, removed on account of the swelling. At the bottom of the cyst is seen lying horizontally the canine tooth. There is an opening behind one of the front teeth, from which flowed a saline fluid. The patient was a female, 56 years of age, which is remarkable as being much later than most dentigerous cysts, which occur generally in persons under thirty. In Dental practice these tumours are rarely met with; for my own part, in my short experience, I have only seen one case of tumour of the hard palate, evidently formed in connection with the canine of that side which had never appeared. This swelling had given rise to no symptoms, and my attention was drawn to it by the fact of making a plate for the patient's mouth.

Retarded teeth may either remain in the one position or move slowly from their original place to another. In the former case, if they ever become visible during life, it is not until a late period, when the alveolus has been absorbed, but in the latter, the removal of a temporary tooth or the pressure of a plate is often sufficient to cause the protrusion of a tooth which has remained stationary for many years. The canines, especially of the upper jaw, are very subject to malposition and retarded eruption, whilst in the lower it is comparatively rare to find this position of canines.

A few weeks ago a very interesting case in connection with the lower jaw occurred in my father's practice. The patient was a woman over fifty years of age, who had been sent into town by a country practitioner of considerable surgical repute. For two years back she had been troubled at intervals with a swelling in the neighbourhood of the centre of the lower jaw, and to the right side, which gave rise to great anxiety on her part, as it was supposed to proceed from a necrosed condition of the jaw, and it prevented her from wearing artificial teeth. On examination, both upper and lower jaws seemed perfectly edentulous, the alveolar portion of the lower being almost entirely absorbed, so that the ridge was pretty much on a level with the floor of the mouth. In the centre of the ridge in front of the fraenum, was seen a dark body about one third of an inch in length, the surface of which for the most part was irregular and offered firm resistance on touching it with a probe. The gum overlapping and surrounding it was quite healthy. Examining more closely, the dark body was found to be formed by the crowns of the two canines lying horizontally, distal surface uppermost, the right one being rather more inclined to the perpendicular than the left, and overlapping it slightly. The roughness was

accounted for by the fact of the right canine having a large carious cavity on the exposed surface; the left one, though much stained and discoloured, was quite sound. They were found to be firmly imbedded in dense bone, and they resisted attempts made to remove them in entirety by means of the forceps and elevator. The pulp cavity of the right canine contained decomposed matter, and as the fracture of the root had laid it freely open, allowing the escape of matter, the complete removal was not attempted; and, in fact, it would require the use of the gouge or burring engine to extricate the terminal ends of the roots. Thus this case is interesting in several ways, and it presents strongly the importance of correct diagnosis. It is evident, I think, that the coronal portions of the teeth had assumed a horizontal position at first, and with the development of the roots, the crowns came to touch each other at the symphysis. This being accomplished early in life, the fact of their presence at all, was not revealed until the alveolar portion, which contained the incisors, had been removed in the natural process of absorption. In all cases of retarded eruption it seems that although abnormal in that respect, yet as regards the actual development of the tooth, there seems to be little or no variation. It is a fact familiar to all Dentists that irregular upper canine teeth, the tip only of which appears through the gum, yet have the development complete, the apical foramen being of normal size, though the root in such cases is often shorter than usual.

In the second division of cases there is a change of position after complete root development, so that the movement must be produced in some other way than the lengthening of the root portion. The model shown is an example of a case of this kind. The patient wore a complete upper set, and at the age of fifty-five, the right canine made its appearance through the gum, necessitating an opening in the plate for it to pass through. At the age of sixty-one the left canine also appeared. Here the two teeth have an inclination approaching to the natural, the right one, however, being twisted on its axis, and they have come forward almost to the position of the central incisors, showing that they have made progress through the alveolus by absorption and deposition.

I have two specimens here which have some bearing on this subject, and which will serve to introduce various points of interest in connection with it; and for the loan of which I am indebted to the kindness of Professor Struthers of Aberdeen University, of whose museum collection they form a part. The first specimen is an upper maxilla, belonging

to an adult probably fully thirty years of age. As I have been referring to canines, I would notice first, that in this case the right temporary canine is persistent and considerably worn, and looking at the palatine surface, immediately behind the central incisor, there appears the distal edge of the permanent tooth, the apex of which projects slightly into the anterior palatine foramen. A portion of bone has been removed to show it more distinctly, the root passing obliquely towards the normal position of the tooth. The persistent temporary tooth has apparently caused the deflection of the tip forwards and inwards. The central incisor prominences are the more strongly marked from the absence of the laterals, the eruption of which cannot be said to be retarded, as they are evidently absent. This absence of lateral incisors is of quite common occurrence, and seems to have some connection with the development of the intermaxillary bone, the laterals being on the outer edge. The lateral incisor is very rarely retarded in eruption, and in most cases if it does not make its appearance about the usual time, the conclusion that it is absent altogether will in most instances be the correct one. We often find them extremely small and stunted, approaching more to the shape of a supernumerary. In the model shown it is absent on the one side, and though present in the other it is quite an abortion.

The first bicuspid, small in size, are both present, but in the place of the second bicuspid we find the second temporary molars considerably worn on the grinding surface, but quite firm in their sockets. On removing the external alveolar plate there is no appearance of the second bicuspid, and, looking at the floor of the antrum, there is a very marked depression, corresponding to the position occupied by the second temporary molar. Although I have seen several cases of retarded second temporary molars I have not observed any case where the first temporary remained persistent. Judging from these and other cases I should regard it as exceptional where a second temporary molar remained, say at the age of twenty, the second bicuspid was in existence at all. The second specimen illustrates the difficulties of the wisdom tooth in effecting its eruption—behind the second molar and deep in the base of the ascending ramus appearing a small oval aperture, which is the contracted opening of the crypt of the wisdom tooth. Thus it can be seen, that where there is an abnormal shortness of the horizontal portion, the second molar is crowded up to the base of the ascending ramus and the emergence of the wisdom tooth prevented. From the irregular position it is thus often obliged to assume, namely, a more or less horizontal one, the

eruption is often retarded. If the second molar, however, be removed the wisdom tooth will move forwards and the crown assume a normal position.

There are numerous accidental causes which retard eruption in particular cases, but I think it would be of little advantage to enumerate them, in the absence of specimens for their illustration, and so I draw these few remarks to a close.

The PRESIDENT then said that any remarks on the paper would come before their next meeting, and he had much pleasure in thanking Dr. Williamson for his interesting paper.

Mr. FINLAYSON exhibited three very old and curious extracting instruments, which he presented to the Society's Museum.

Mr. MACLEOD also handed over several malformations and preparations to the museum, expressing a hope that other members would do the same, and so supply their Curator with *matérielle*.

On the motion of Mr. FINLAYSON, a vote of thanks was given to the retiring President, as also to the Treasurer, Secretary, and other officer-bearers for their services during their terms of office.

The PRESIDENT—Gentlemen, having concluded our ordinary business, you will doubtless expect that the President ere quitting the Chair will give you a few parting words, these shall be brief indeed, as I feel that my opinions and sentiments in regard to the Society and its work are so well known and understood, having been so frequently brought before you that I would only repeat myself in making any reference to either. This the 13th of March, which was wont to be our opening day, has by the re-arrangement of our times of meeting, come to be our closing one, and brings us to the end of another session; and if we cannot look back and point exultingly to any great work accomplished in the comparatively brief period embraced in that session, I think, considering the amount of extraneous work entailed upon many of our members by the passing of the Dental Practitioners Act and the opening of our new Dental Hospital and School, we may fairly congratulate ourselves upon the fact that we are still progressing, and that the papers, discussions, and conversational meetings of the Society have all been of a most useful and highly practical character, and could not fail to benefit, as they seemed to interest, all who took a part in them.

I have on a previous occasion specially drawn attention to the pleasant and instructive character of these conversational

meetings, at which many facts are elicited that would not be called forth at those of a more formal character, and I am disposed to think that they will, without prejudice to the Society, become a still more pronounced feature in its proceedings.

Limited in the number of our members, and many of whom reside at a great distance, we do not stand upon the same vantage ground for turning out work, held by the Odontological or other large bodies, for if in the many (as is the case) only a few are found able or willing to go in for what may be called extraneous work in their profession, how much more difficult must it be to get even a working minority from among the few. Despite this drawback and others with which the Society has to contend I may honestly compliment the members upon what they have done in the past to sustain the credit of the profession and the scientific character of the Society, neither of which has suffered in their hands. If we have to contend with a small membership, it is a difficulty which, each year as it adds to our numbers, will gradually make less, so that we can look forward with hope and confidence to the future, knowing also that the younger and coming men will be trained in all those educational and scientific requirements fitting them for the honorable practice of their profession, and the possession of which by its members can alone secure to the Society the honorable position and character it has already acquired and hitherto done so much to sustain. That it will require much less mental labour in men so trained to write papers there can be no doubt; but whether such papers will contain the sound practical knowledge derived from experience, and which has characterised those which have from time to time emanated from this Society, remains to be seen. To these young men of the future I would say, it will take you all your time and no end of hard work ere you can hope to "Rive your faithers' bannets."

Gentlemen, it is a source of great satisfaction to me that I am privileged, before leaving this chair, to congratulate you upon the fact that the Society has at last found a place to rest, a sort of home to call its own; and where, I hope, we will soon gather together many objects of interest now in the possession of individual members, or dispersed through the profession, and which will form a nucleus for that Dental Museum which it has long been the object and desire of the Society to acquire. In the same premises as our new Dental Hospital and School such a collection will form a valuable, instructive, and necessary adjunct to that institution. I would therefore urge upon members the desirability of doing

their utmost to assist our Curator in this matter, by placing such objects of interest as they may have at his disposal.

I do not think, gentlemen, I am out of order here when I express the gratification it has given me to see the Edinburgh Dental Dispensary gradually developed into the Edinburgh Dental Hospital and School, more particularly as so many members of this Society were engaged in effectively carrying out this good work, and without whose help it never could have been accomplished. By the passing of the Dentists Act such an institution had become a necessity—it was the inevitable outcome of past events. The Dentists of Scotland accepted it as such; and it is gratifying to know that we have had the sympathy and help of many of our brethren in the south in this matter; and though it will entail a large amount of labour and self-sacrifice on the part of all engaged in it to make it a success, still I trust men will be found equal to the occasion, and that our Dental School will one day be as celebrated as our Schools of Medicine and Surgery in Edinburgh are.

Gentlemen, I do not retire from the honorary position in which your kindness placed me without a certain feeling of regret—regret that I have not been able to compass all I could have wished for the advancement of the Society. It may be that I am over anxious on this point and would like to see it moving onwards with the stride of a man while it is yet only in its infancy. But if it has not been progressing with the rapidity I could have wished, it is a satisfaction to know that it has always been going forward, never backwards, never even standing still, but that each year has added to its numbers and to its strength. We are justified then in looking forward with confidence and hope, firmly convinced that as it has fulfilled its mission in the past, so it will be equal to the greater requirements of the future, when its influence will be more felt and the field of its labours in the specialities of our work be more extended, and still more earnestly worked.

Before concluding I beg to express my indebtedness to our worthy Secretary, Mr. Wilson, for the able and ever willing help he has always given me in carrying on the business of the Society. I would also tender my thanks to the other Office-bearers and Members generally, for their continued forbearance with my many shortcomings, not only during the two years in which I have had the honour to occupy this Chair, but since the formation of the Society. Their general kindness and good feeling towards me I shall never cease to remember.

That this Society may prove a continued success is my

earnest wish, and I leave the reins with perfect confidence in the hands of our newly elected President, feeling sure that nothing will be wanting on his part to sustain its character and advance its interests. Gentlemen, I trust we shall all meet again at the opening of our next session with renewed strength and energy, fully determined to lend him such help as we can in carrying on the work of the Society.

I beg to thank Mr. Finlayson, and you Gentlemen, for the very cordial vote of thanks you have been pleased to accord to me.

Mr. CAMPBELL then briefly thanked the Members for the honour they had conferred by electing him President.

Before vacating the Chair, Mr. Hepburn announced that they would begin their next session under their new President in November.

ANNUAL DINNER OF THE LICENTIATES IN DENTAL SURGERY AND THE ODONTO-CHIRURGICAL SOCIETY.

HELD AT THE BALMORAL HOTEL, EDINBURGH, MARCH 13, 1879.

W. CAMPBELL, Esq., L.D.S., in the Chair.

D. HEPBURN, Esq., L.D.S., Croupier.

THE following places were represented:—Glasgow, by J. R. Brownlie, L.D.S., and J. Austin Biggs; Aberdeen, by W. H. Williamson, M.B.C.M.; Dundee, by W. Campbell, L.D.S.; Stirling, by L. G. Platt; Berwick, by John Wells, L.D.S.

After the usual loyal and other toasts,

The CHAIRMAN said,—It is with very great pleasure I rise to propose the toast which has been assigned to me, namely, “The Dental Diploma.” I am sure it will be received heartily, as it is to it we are indebted for our annual social gathering. It is now thirteen years since we first dined together to commemorate this important event in the history of Dentistry—the instituting of a Dental diploma. It is now nineteen years since the College of Surgeons of England received royal powers to grant Dental degrees. The year previous to this event I was present at a meeting of Dentists held in London, having for its object Dental reform. Again, last week I had the pleasure and privilege of being present in London at what I believe to be the most important Dental meeting ever held in this country. I well remember the meeting in 1859; but what a change has been wrought in the profession since then. At that time

there was division in the camp, now unity and harmony prevail; for the Society of Surgeons practicing Dentistry is so small, and so evidently on the wrong line of action, that it is hardly worth a big effort to shunt it off. Twenty years ago, however, the opposing parties were strong, that which divided them being the principle of incorporation. One party insisted on the Dental profession having a separate "body," with complete control over its own education and government; while the other section declared as strongly that they were a branch of the great surgical body labouring actively and successfully to gain legal recognition of their affiliation to that body. The fact that the College of Surgeons had been empowered to prepare a curriculum and to examine Dentists was an important step; but being permissive only—not on the Permissive Bill principle, "to permit me to prevent you, &c."—it by no means checked the influx of charlatans. The Reform movement so ably begun twenty years ago might have gone on but for the divisions I have referred to. Disappointment on the one hand and a little excusable satisfaction on the other naturally led to inaction. The old spirit and zeal, however, which animated the workers then were only dormant. A little fresh fire soon rekindled them. For this we are undoubtedly indebted to our honorary member Mr. Charles James Fox, whose untiring zeal in the cause of Dental reform will not soon be forgotten. Only three years ago this month, I think, at his instigation a body of able workers were gathered under an able head—Mr. Tomes—and the broad shoulders were not wanting in Mr. Turner. The results of their united labours have been marvellous. The benefits which both the public and the profession will ultimately derive from compulsory education cannot be easily over-estimated. We may congratulate ourselves that we have now a "British Dental Association," the result of last week's meeting in London, and I do hope and expect its second gathering will be in this city. When I last gave you this toast I expressed regret so few possessed the Dental diploma, as the public would be long in learning the meaning of our initial letters. Since then the number of those who now possess this diploma is considerably increased, and must necessarily go on increasing. I trust that each and all who possess, or may possess, this degree will always cultivate so high-toned a professional spirit that the initial letters "L.D.S." will be held in as much honour as those of "M.D.," or any other degree. I ask you to drink success with honour to the Dental Diploma. (Cheers.)

The CROUPIER, in proposing "The Edinburgh Dental

Hospital and School," said it had given him great pleasure to see the old Dental Dispensary developed into the Edinburgh Dental Hospital. The dispensary had served its day and generation, doing good work in its time. The present institution was a natural outcome of the times, called for alike by the ever-increasing demands of the poor for the special help and relief it affords, and for the practical training of students in the specialities of that curriculum which recent legislation had rendered compulsory. The staff of lecturers he hoped soon to see complete: the right men in their right places, with many students listening to their instructions. He was glad to see the subject taken up so earnestly by the profession here and by many of their brethren in the south, to whom they were greatly indebted for sympathy and help. It gave him great pleasure to see so many friends from a distance with them, and thought the least the Edinburgh men could do was to be present here to meet and bid them welcome. He trusted the public would come forward, and by their liberal subscriptions express their sense of the benefits such an institution daily conferred upon the suffering and the poor.

Dr. WILLIAMSON, in proposing the toast of the "Odonto-Chirurgical Society," said that he was quite ignorant of the reason why he should be called upon to propose so important a toast, except it might be that he possessed the somewhat dubious qualification of being the youngest member of the body. He was surprised sometimes to find the apparent apathy with which the meetings were regarded by members who were resident in the very city in which they took place. For himself, he considered that such meetings were of great value as affording an opportunity for the interchange of professional opinion on the various vexed questions of the day, and he was sure that all those who had attended its meetings had derived benefit from the experience of others, and the information thus gained had borne useful fruit in the course of daily practice. Believing then so strongly in the importance of its operations, he had great pleasure in proposing the toast, "Prosperity, ever increasing, to the Odonto-Chirurgical Society."

Mr. BROWNLIE said,—At a time like this when so much is doing, so much has been done in the sphere of Dental politics, one feels disposed to share in the triumph of successful agitation—the *éclat* attending successful effort—were it even to the extent of proposing a toast. My toast, however, has naught to do with the matters which have been engaging so much attention lately, but I feel sure that in taking your attention aside for a little from such matters

to the scientific aspect of our profession, as represented by the Odontological Society, that the change from the strife of politics to the calm and dignified atmosphere in which the Odontological Society surrounds itself will be most acceptable. It is a good thing for the profession, I think, that throughout the past few years we have had an Odontological Society—a place apart—where the advocates of every species of Dental reform could still meet and work together in promoting the science and art of the profession. The success which has attended its proceedings sufficiently attest the wisdom of its arrangements. Dental education may soon be sufficiently provided for, Dental reform may be carried to its end, but the work of the Odontological Society, like the brook, “goes on for ever” till we have wrested from nature the last secret in its economy, the work of such a society will be incomplete. The promise of continued success is as great now as ever it was; the younger men are stepping forward to relieve those who have borne the heat and burden of the day, and I am sure we all wish them heartily every success.

Mr. MACLEOD proposed the health of the Chairman, and Mr. FINLAYSON that of the Croupier.

Miscellanea.

A VALUABLE CONVENIENCE FOR THE LABORATORY —BOILING WATER IN TEN SECONDS.

By THOS. FLETCHER, ESQ., F.C.S.

HAVING felt the want of a means of heating water more rapidly than can be done by any ordinary arrangement, I made some experiments as to what was possible in this direction, and succeeded in making, after some trouble, a little apparatus, which now hangs against the wall in the laboratory, connected by a tap to the town's water supply, and which gives me at will, in a few seconds, a stream of water for any length of time and at any temperature, from cold to boiling.

The essential part of the apparatus is a coil of $\frac{1}{4}$ -inch copper pipe, the coil being 2 inches diameter and 14 inches long, =52 turns of tubing. These coils are bent sideways so as to make the plain cylinder into a large spiral, which,

when the coil is put on end, prevents one coil being exactly over the other. The reason of this is that the whole of the tube shall be exposed to the direct flame of a large-sized Wallace's gas burner, placed underneath.

To prevent the flame being blown about, the coil is placed in a sheet-iron cylinder, making the whole apparatus appear as a gas burner with a sheet-iron chimney over it, the chimney being filled with a mass of small copper tubing, arranged so as to prevent any straight run through of the flame, and yet not to entirely stop the draught.

When the water is turned on and the gas lighted the water, if not running too quickly, is scalding hot in five seconds and boiling in ten seconds. The temperature, of course, depends on the power of the burner, and the speed with which the water passes. In my own arrangement with $\frac{1}{2}$ -inch gas pipe and $1\frac{1}{2}$ -inch Wallace's burner (having about $\frac{1}{8}$ -inch hole in the gas way), I can obtain a pint of boiling-water or two quarts of warm water in two minutes from the time the gas is lighted, and the slightest turn of the water tap makes the supply hotter or colder as desired. The whole apparatus is about 20 inches in height and 4 inches in diameter.

It is used for warming water for wax, for general washing, and for making tea for the workpeople, and is in every point perfectly satisfactory and simple in use. The only objection is that everybody wants me to make one like it, and I really have not time at present, my hands are just now fully employed, and the whole thing is so simple that any ordinary plumber could make one with ease.

It must be noted that although the gas way in the burner is very small, a large-bore gas-pipe is necessary for Wallace's burner, as it does not work satisfactorily unless with a good *pressure* of gas, and I use a large-bore pipe to prevent unnecessary friction and loss of pressure. Many other forms of burner might be used, but I selected Wallace's as being the most powerful open flame, and also because it is not liable to be damaged by any accidental wetting, which any burner is liable to in the position required.

THE DEPOTS.

DENTAL MANUFACTURING COMPANY'S PATENT GAS REGULATING PRESSURE GAUGE.

AN incalculable boon is, we feel sure, offered to the profession by this most ingenious, simple, and yet invariably

accurate apparatus. It is not the first invention whereby the pressure of steam has been made the means of regulating the amount of gas supplied to a vulcaniser, but it seems, undoubtedly, by far the most perfect instrument yet introduced, having several advantages never before even attempted. For instance, it has a means whereby the gas-supply can be so regulated that it is simply *impossible* for the heat to be raised beyond that which is required, whether it be the 250° F., for celluloid, the 270° F., recommended for fifteen minutes for commencing vulcanising, or the 320° F., for completing that process. Once set, the *heat can neither rise nor fall*, and the machine requires no further watching whatever, so that the over-taxed mind or careless attendant need no longer be allowed to endanger the safety of themselves and others or the proper strength of the vulcanite. All practitioners must, from time to time, have experienced the extreme annoyance caused by the breaking of brittle cases, but henceforth, with such a simple preventive at hand, they will have but themselves to blame. Having for some time used one of these gauges we speak from *actual experience*, and feel we cannot say too much in its praise. We may further mention that, if thought desirable, the apparatus can be arranged for a principal to set and *lock it*, whereby it cannot be even wilfully interfered with in his absence.

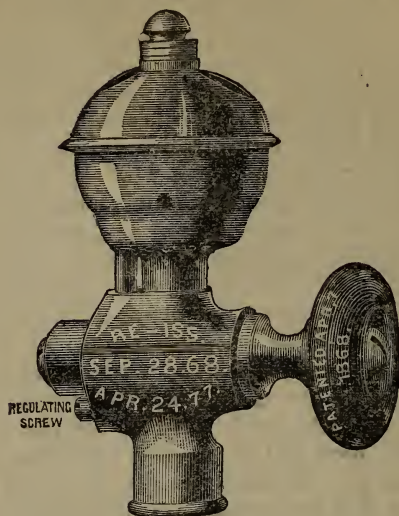
THE DOUBLE CONE-BEARING LATHE-HEAD,

also produced by them, will probably delight those who like a true running wheel and mandril. It is so made that even after long use, when most lathes begin to wear loose in the collar, it will close upon itself and so run as true as ever. Having apparently determined to have absolute accuracy, if obtainable, they have constructed the chucks with cone-bearings or adjustments, so that even as they wear they will still fit as true and firm as before. A little reform which should be greatly appreciated is that the corundum wheels are held on the chucks by a neat convex-headed screw, instead of the old-fashioned screw and nut; the former *never* being in the way, however small the wheel may be.

SELF-LIGHTING GAS BURNER.

They have also a most elegant and convenient nickel-plated gas burner, which is arranged with a by-pass so constructed that it keeps but the tiniest little jet always alight within a ball, which protects it from draught; as the handle—which, by-the-bye, is a non-conductor of heat—is turned, this little jet grows tall, lights the flame and then goes out until the flame

is being turned off, when it rises to salute and immediately retires to its former unobtrusive size. The burner being



supplied with heated atmosphere through the ball, also gives a greater light. These burners are also arranged for soldering purposes, &c.

RUTHERFORD'S BURR LUBRICATOR AND STAND

is a convenient and elegant stand made on the tier above tier principle, each tier being pierced for the burr drills, and diminishing in circumference so that any one can be removed with ease. The top has a conical opening into a nickel-plated oil reservoir, the aperture of which is protected by an elastic diaphragm. By just passing any drill shank through this, it is immediately freed from moisture and sufficiently oiled for future use, whilst even if upset no oil could escape.

THE JOHNSON DENTAL ENGINE,

which Mr. Rutherford also has, has many points of difference from any other, and certainly some advantages, its chief probably being its lightness to move about and the strength of its movable arm, this latter is of solid light steel with flexible spiral terminal, and double cone journal hand-piece, and has at its other end certain spiral springs which compensate for its weight, so beautifully balancing it that the operator is unconscious that he is holding any instrument other than a light excavator. Its upright stem is of wood to gain lightness, and in other respects, although differently

constructed, its movements resemble those familiar to us. It however claims to be "*the lightest running Dental engine made.*"

FLETCHER'S TRANSLUCENT FILLING

improves in our hands the more experience we have of its use, and its appearance, or rather its imperceptibility, is universally eulogised by those on whom we have tried it. At present there has been no softening or dissolving that we have been able to detect, but a tendency to give way if exposed to hard work on masticating surfaces. If time proves it capable of resisting the solvents in the mouth, its one defect will be little felt, as we have already good materials for such cavities, whilst its success in its hitherto unattainable advantages will render the utmost thanks of the profession due to its indefatigable discoverer.

The experience of any regarding it will with pleasure be received for publication.

THE DENTAL LICENCE OF THE ROYAL COLLEGE OF SURGEONS.

It is said notice has been given that at the next meeting of the Council of the Royal College of Surgeons of England a motion will be made to admit to the "examinations *sine curriculo*" for the Dental licence of the College all Dentists on the Dental Register, or at least all candidates for the licence who were in practice as Dentists in England at the time of the passing of the Dentists Act. At present, by the regulations of the College, all candidates "who were in practice or who commenced their education as Dentists before September 8, 1859, and who at the time of the passing of the Dentists Act were practising in England," are admitted to examination on the production of certain certificates, such as—of moral and professional character, of not having employed advertisements, and of other particulars. But by the regulations of the Edinburgh College of Surgeons, candidates "who were in practice in Scotland before August, 1878, and apprentices who commenced their education in Scotland before August, 1875," are admitted to examination on production of certain certificates; and the Irish College admits candidates to examination up to August, 1881, on the production of certain certificates, "if they have been in practice in Ireland five years before the date of application." In the regulations of the sister colleges is to be found, we imagine, the exciting cause of a motion proposed to be brought forward

before the Council of the English College. We can hardly believe, however, that the proposal will really be made, much less that it will be seriously entertained, for it would be obviously most unjust to those Dentists who have gone to the labour and the expense of time and money required to obtain the Dental licence. Every man who has since 1859 chosen to become a Dentist has known perfectly well the terms upon which he might obtain the L.D.S. of the College, and so take rank as a professional man; and if he ever thought or inquired about the matter, must have known that the portal to the "Dental profession" would year by year be made narrower, rather than wider and more easy. Comparatively few men indeed have elected to undergo the labour and expense of the curriculum and the examination for the Dental licence; but we must refuse to believe that the College can, regardless of its own dignity and reputation, be so flagrantly unjust to these few as to now fling open its doors, and admit to its "examinations *sine curriculo*" for its Dental licence any man who has obtained admission to the Dental Register, and who can produce the certificates required by the regulations of 1859.—*Med. Times and Gazette*.

BRITISH DENTAL ASSOCIATION.

A MEETING of the Representative Board of the British Dental Association was held in London on Monday last, April 28th, when various resolutions were passed promoting the objects of the Association. We understand that Mr. Tomes has been elected Chairman of the Board, with Mr. Underwood for his Vice-Chairman; Mr. J. Parkinson and Mr. Turner are Treasurer and Secretary respectively. A code of bye-laws are in course of formation, which we hope soon to be able to publish to the profession.

Amongst the list of those gentlemen who attended the meeting of 3rd of March last, the name of Mr. Wm. Fothergill, of Darlington, was omitted.

WESTERN COUNTIES DENTAL ASSOCIATION.

WE have received with much satisfaction the following prospectus of the Western Counties Dental Association, of which C. Spence Bates, Esq., F.R.S., has been elected chairman. This is as it should be, and shows that a healthy

activity is being diffused throughout the profession. We have no doubt but this Association will form a valuable adjunct to the British Dental Association now in course of organisation by the Representative Board elected at the general meeting of the profession held on Monday, the 3rd of March, as reported in our April issue.

At a meeting of the following Dental licentiates of the Royal College of Surgeons, held at Plymouth on the 13th of April, 1879,

Present:—C. Spence Bate (in the Chair), J. T. Browne-Mason (Exeter), Henry B. Mason (Exeter), H. A. King (Exeter), C. N. King (Exeter), D. Watson (Torquay), W. R. Tuck (Truro), G. H. Marriott (Plymouth), W. V. Moore (Plymouth), F. Balkwill (Plymouth), and E. E. Jewers (Plymouth),

The Chairman read letters from the following licentiates expressing approval of the meeting, and regretting their inability to be present:—Barron Rodway (Torquay), E. W. Pearman (Torquay), F. Youngman (Torquay), S. B. Fox (Exeter), Rd. Browne (Tavistock), M. Magor (Penzance), R. Stratton Coles, Jun. (Plymouth), R. H. Geldard (Plymouth), J. H. Perkins (Taunton), E. N. Washbourne (Taunton), and Wm. Hunt (Yeovil).

Resolved, on the proposition of J. T. Browne-Mason, seconded by H. A. King,

“That in the opinion of this meeting it is desirable that a Dental Association for the four western counties, viz. Cornwall, Devon, Somerset, and Dorset, be formed for the purpose of encouraging a good and generous feeling amongst the members of the profession, and that the Society be called ‘The Western Counties Dental Association.’”

Resolved, on the proposition of D. W. Watson, seconded by W. V. Moore,

“That the Association shall consist of a President, Treasurer, Secretary, Council, Members, and Honorary Members.”

Resolved, on the proposition of W. R. Tuck, seconded by Henry B. Mason,

“That the Association shall meet annually, on the first Monday in August, at some town in one of the four western counties.”

Resolved, on the proposition of H. A. King, seconded by E. E. Jewers,

“That the objects of this Association shall be—

“To watch the working of the Dentists Act, 1878, and

support the Medical Council in its action in seeing the Bill properly carried out.

“For the consideration and discussion of subjects relative to the interests and welfare of the Dental profession.

“For the establishment of a code of professional ethics.

“For the reading and discussion of papers on Dental surgery and mechanics.”

Resolved, on the proposition of H. A. King, seconded by C. N. King,

“That the Council be empowered to invite such practitioners to become members of the Western Dental Association as it may think proper.”

“That the following gentlemen be invited to become members:—Stratton Coles, Esq. (Plymouth), F. Jewers, Esq. (Plymouth), C. F. F. Tubbs, Esq. (Plymouth), Norman King, Esq. (Exeter), H. Mallet, Esq. (Exeter), F. D. Harris, Esq., M.R.C.S. (Exeter), H. Barron Rodway, Esq. (Torquay), J. C. Tippet, Esq. (Torquay), W. A. Hunt, Esq., Jun., M.R.C.S. (Yeovil), and J. J. R. Bate, Esq. (Tiverton).”

Resolved—“That the annual subscription of the members shall be half-a-guinea.”

Resolved—“That all Dental licentiates of the Royal College of Surgeons shall be a Council for the purpose of carrying out the foregoing resolutions.”

Resolved—“That the first meeting of the Western Dental Association shall be held in Exeter on the first Monday in August during this present year.”

Resolved, on the proposition of J. T. Browne-Mason, seconded by F. Balkwill,

“That Spence Batè, Esq., F.R.S., &c., be the President.”

Resolved—“That J. T. Browne-Mason be Treasurer to the Association.”

“That W. V. Moore be the Secretary.”

Resolved—“That the thanks of the meeting be presented to the Chairman for his conduct in the chair, and for the arrangements in carrying out the meeting.”

All these resolutions were carried unanimously.

NATIONAL DENTAL HOSPITAL AND COLLEGE.

THE prizes will be distributed to the successful students of the past year on Tuesday, May 6th, 1879, at the Beethoven Rooms, 27, Harley St. Edwin Saunders, Esq., F.R.C.S., in the chair. Distribution of prizes 8 p.m. Music 9 p.m. Oakley Coles, Dean.

THE DENTAL DIPLOMA OF THE IRISH COLLEGE OF SURGEONS.

MESSRS. JOHN H. LONGFORD and F. Taylor have been appointed examiners for this diploma in the place of Messrs. Pearsall, F.R.C.S.I., and Theodore Stack, M.D., resigned. Both the gentlemen appointed have the Dental diploma of the College, but do not possess any medical or surgical qualification.—*British Medical Journal*.

A NEW DENTAL HOSPITAL FOR DUBLIN.

WE understand that the house in York Street, Dublin, recently occupied by the late Dr. B. F. McDowel, has been taken on lease by a number of Dental Surgeons, who have joined together for the purpose of founding a Dental Hospital and School, in order to supply to students the instruction necessary for the Dental licence of the Irish College of Surgeons. We believe that Mr. Stack, Dr. Baker, and Mr. Moore are associated with the movement.—*Medical Press and Circular*.

THE DUBLIN ASSOCIATION OF DENTAL SURGEONS.

AN Association under the above name has recently been formed in Dublin. We have received a list of its members, and observe that it includes the names of all the Fellows of the Irish College of Surgeons practising Dentistry, as well as those of two medical graduates of the University of Dublin. At a recent meeting of the Association—present, Messrs. Baker, Moore, Corbett, Pearsall, Stack, and A. W. Baker—it was decided to take steps to open a Dental institution for educational and charitable purposes. There is no doubt of the want in Dublin of such an institution; and, if properly worked—as we have no reason to doubt, under such auspices, it will be—it is to be hoped that the Association will thereby succeed in carrying out those higher educational views of Dentistry such as we have always advocated in this journal. There is still, we believe, in existence in Dublin a Dental Hospital. Its condition, however, is by no means satisfactory. The proposed institution, from the professional and personal reputation of those interested in it, will doubtless be worked in a different spirit from that which

has resulted in the failure of the Dental Hospital to fill a position which we should now hope it will see the desirability of retiring from.—*British Medical Journal*.

WE understand that Dr. Frank Fay, formerly a most assiduous and zealous student at the Dental Hospital of London, has left Brussels for Paris, where he is established at 3, Rue Laffitte, with Dr. Bygrave.

APPOINTMENTS.

Mr. WILLIAM BOWMAN MACLEOD was appointed Lecturer in Dental Mechanics in connection with the Edinburgh Dental School in Chambers Street, at a meeting of the Edinburgh Royal College of Surgeons.

Mr. WALTER H. RIDGE, L.D.S., R.C.S. Eng., Stafford, to be Dental Surgeon to the Stafford Dispensary.

Mr. HENRY HELYAR, L.D.S.I., 3, Castle Square, Haverfordwest, to be Dental Surgeon to the Haverfordwest and Pembrokeshire Infirmary.

Obituary.

PROFESSOR J. H. McQUILLEN, M.D., L.D.S.

IN addition to our notice last month the following resolutions show the estimation in which Dr. McQuillen was held in his own city, and by his colleagues and pupils :

At a meeting of the Dental profession, held at the Philadelphia Dental College, March 5th, called with reference to the decease of Dr. John H. McQuillen, the following preamble and resolutions were adopted by a rising vote :

Whereas, Dr. J. H. McQuillen has been suddenly removed from among us by death, it becomes our privilege as well as our sad duty to make record of the event, and to express our estimate of his worth and our sense of the loss thus sustained ; therefore,

Resolved, That Dr. McQuillen has been for many years so identified with the interests of the Dental profession, and so earnest in their advancement, so indefatigable in his efforts in behalf of the elevation of the standard of education, of graduation, and of practice, that his death leaves no one man who in all respects fills the place thus made vacant ;

That while as an operator he was gifted with more than ordinary ability ; while as a teacher he was conscientious and earnest, his labours in the organisation of the profession and in promoting its educational interests gave him marked pre-eminence ;

That, more ready to serve than to be served, more solicitous for the advancement of the profession with which he was identified than for personal advantage, he, indeed too often, ignored the latter in the effort to promote the former;

That a life devoted to the self-sacrificing service of his profession, and to the promotion of all plans having for their object its improvement, made him an example of concentration, of industry, and of persistent effort worthy of imitation;

That, while thus recording our appreciation of his professional attainments and labours, we desire also to express our affectionate remembrance of him as a genial, generous, sympathetic gentleman, and to tender to his bereaved family the assurance of our profound sympathy.

At a special meeting of the Faculty of the Philadelphia Dental College, held on Wednesday, March 5th, 1879, the following preamble and resolutions were offered, and, after appropriate remarks by members of the Faculty, were adopted :

Whereas, The sad intelligence has reached us of the sudden death of Dr. John H. McQuillen, practically the founder of this institution, and its Dean since its establishment, sixteen years ago ; and,

Whereas, It is fitting that we should place on record a testimonial of our high appreciation of his ability, industry, untiring zeal, and steadfast consecration to the interests of this school ; therefore,

Resolved, That to his organising faculty, his earnest efforts, and to his unselfish devotion to its interests, the Philadelphia Dental College owes, to an extent not to be estimated, its successful career as an educational institution, and its high reputation both at home and abroad ; trials, impediments, opposition—circumstances which operated as discouragements to others—only serving to stimulate him to fresh endeavour ;

That in his death the Dental profession has lost one who has done as much perhaps as any one man to elevate the standard of Dental education and practice in this city, in this country, and to no little extent throughout the world ; his consecration to the furtherance of all efforts which in his judgment would advance the interests of the Dental profession having so won the confidence of his brethren as to command their recognition of him as an able and trustworthy leader ;

That, appreciating his talents, his attainments, his labours, his earnestness and his self-sacrificing spirit in all that concerned the interests of this school, we especially cherish the memory of his numerous manifestations of personal interest and kindly helpfulness ;

That, with a copy of this expression of our appreciation, esteem, and affection, we tender to his widow and children our sincere sympathy.

At a meeting of the Alumni Association of the Philadelphia Dental College, held March 5th, 1879, the following preamble and resolutions were adopted :

Whereas, We have received the painful intelligence of the decease of our beloved and honoured professor, Dr. J. H. McQuillen ; therefore,

Resolved, That in his death the Philadelphia Dental College has lost one who was ever ready to devote his time, talents, and best efforts to the promotion of its highest interests ;

That the profession has lost an earnest worker in the cause of Dental education—one to whose indomitable energy and perseverance the college was indebted for its success, in which every graduate and student feels a legitimate pride ;

That a copy of these resolutions be forwarded to his bereaved family, with the expression of our sincere sorrow and sympathy.

At a meeting of the students of the Philadelphia Dental College, Wednesday morning, March 5th, 1879, the following resolutions were adopted :

Whereas, Our friend and beloved teacher, Dr. J. H. McQuillen, has been removed by death ; it is hereby

Resolved, That we receive the intelligence of his sudden decease with deep regret and heartfelt sorrow ;

That in his death the Philadelphia Dental College loses a most able instructor, the Dental profession an arduous and conscientious worker, and society a useful and honoured member ;

That a copy of these resolutions be sent to the family of the deceased with the assurance of our deep sympathy in their bereavement, also that a copy be furnished the 'Dental Cosmos' and the city papers.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

MRS. CAFFERATA'S APPEAL.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you kindly allow me through the medium of your Journal to acknowledge the receipt of the £50 subscribed for my benefit, and to offer my most heartfelt thanks to those who have so generously come forward to help me in my distress. I cannot sufficiently express the deep gratitude I feel for their great kindness to myself and children. I also beg to thank you personally for your sympathy and the warm interest you have shown in lending me the powerful aid of your Journal.

I am, &c.,

5, Suffolk Street, Sunderland ;

EMILY CAFFERATA.

February 26th, 1879.

[We regret that pressure of matter has delayed the insertion of the above. Is not this sad case, however, an instance of the urgent necessity of the Benevolent Fund suggested for the British Dental Association to form? When we see that under pressure nearly £10,000 can be forthcoming for registration fees from our profession, how paltry a sum £50 seems for the relief of such genuine and unforeseen distress.—ED.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—Surely the writer of the letter in this month's Journal, signed "Drar g Kcalb," cannot be in earnest in wishing to see the two rules he proposes (regarding the membership of the British Dental Association) carried into effect. Taking Rule 1, "Drar g Kcalb" classes all Dentists who advertise in *any form* as belonging to the "*low class*," evidently forgetting, or ignorant of the fact, that a great number of the oldest and most respectable men in the Dental profession make use of advertisements in some form or other, and he would by this rule prevent such men becoming members of the Association, and thus prevent younger men in the profession from benefiting by their knowledge and large practical experience.

As regards Rule 2 it is simply ridiculous. When you consider that the Association is to be supported by annual subscriptions, and also that taking the average you would not find above one Dentist in fifty who does not exhibit a show-case or advertise his fees, and also that there would thus be only one Dentist in fifty eligible for membership. The Association (if the rule was carried out) would for *five years* be, both as regards members and finances, on the verge of bankruptcy.

I am, &c.,

April, 1879.

MALVA.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I was rather surprised upon seeing a letter in last month's Journal in which somebody, who wisely refrains from publishing his name, accused me of having quoted from a well-known work the major part of a paper I read before the Students' Society last November.

I always understood that the papers read before the above Society were not so much for the original or non-original matter they might contain as for the purpose of drawing the students into closer relationship, and by provoking friendly controversy and criticism so create kindly feelings and good fellowship.

I do not know who your correspondent "Justice" may be, but he is evidently afraid of publishing his name, and I should think with every good reason, seeing the paltry complaint he has to make.

Without trespassing further on your valuable space I would simply recommend "Justice" to read the paper again, and he will see that the portion he refers to is written as a quotation "word for word."

I might add that it would give the Society, I am sure, great pleasure to hear an original paper from "Justice," but I would advise him before he attempts it to go to the nearest national school, and learn there the rudiments of the English language, also the use of inverted commas. I am, &c.,

HUGH DEWES.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I noticed with surprise and regret in the last number of the 'Dental Journal' a letter signed "Justice," in which Mr. Dewes is accused of neglecting to acknowledge the authorities whom he quoted in a paper upon "Extraction of Teeth," read by him at a recent meeting of the Dental Students' Society.

I am inclined to think that the writer of the letter was actuated less by a desire for justice than by a love of fault-finding.

May I be allowed, in the true interests of justice, to point out two facts?

First, that no papers read by members of the society are supposed to be entirely original; and, secondly, that that portion of Mr. Dewes' paper to which "Justice" draws particular attention is put in inverted commas, thus clearly showing that it is intended as a quotation. (Query—Can it be possible that "Justice" is ignorant of the use of inverted commas?)

Apologising for intruding upon your valuable space,

I am, &c.,

F. R. WHATFORD.

To the Editor of the 'British Journal of Dental Science.'

SIR,—To avoid confusion permit me to define the position of the profession in Canada, suggested by the remarks of a correspondent in your February number. Ontario and Quebec are the only two provinces of the dominion in which the Dentists are incorporated. The "Royal College of Dental Surgeons, Canada," was incorporated by the legislature of Ontario; is the present organisation, confined in its jurisdiction to Ontario. The "Dental Association of Quebec" was incorporated by the Quebec legislature, has precisely the same aims and objects as the Royal College of Dental Surgeons, a separate board of examiners, licence, &c. The licence of Quebec gives no privilege of practice in Ontario, and *vice versa*.

With reference to Canadian diplomas held in England, upon this one point we differed from our Ontario friends. The Ontario Act empowered them to grant licences to Dentists abroad without examination. The "Dental Association of Quebec" received many similar applications, but as they came from parties who did not hold the English L.D.S. we thought naturally that the first diploma of the kind possessed by such gentlemen should be that to be obtained by examination at home, and not a mere purchased L.D.S., which to the uninitiated might appear to be the L.D.S. of England by reason of the identity of its title. The "Dental Association of Quebec," therefore, rejected every application, and in no instance granted its licence and diploma to any applicant outside of Canada.

I am, &c.,

W. GEO. BEERS,

Sec., "Dental Association of Quebec."

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
 Twelve Months (post free) 13s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.
5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

- J. BEVIS, Newport, Mon.—You had better put your question to the Secretary of the British Dental Association, 12, George Street, Hanover Square.
- S. H. CARTWRIGHT.—We have been compelled to postpone letters from this gentleman and others, together with the verbatim report of the meeting of the General Medical Council on Dental subjects, owing to press of matter and for other obvious reasons.
- EDWARD FOTHERGILL.—We regret the engravings are not yet ready.

Communications received from S. Hamilton Cartwright, Malva, Fletcher, Beers, Fothergill, O'Duffy, Dewes, Barrett, Ridge, Whatford, Walker, Magor, Ribolla-Nicodemo, Helyar, Bowman, Macleod, Bevis, Read.

BOOKS AND PAPERS RECEIVED.

Die Antiseptische Behandlung der Pulpakrankheiten des Zahnes mit Beiträgen zur Lehre von den Neubildungen in der Pulpa. Von Adolph Witzel, Pract. Zahn-Arzt in Essen an der Ruhr. Mit 18 litho- und chromolithographischen Tafeln und 70 Holzschnitten. Commissionsverlag von C. Ash & Sons, London, Liverpool, Manchester, Paris, Wien, Hamburg, Kopenhagen, Petersburg, und Berlin. 1879.

'The Teeth, Natural and Artificial.' By Frank A. Huet.

'Address to the American Academy of Dental Science.'

'Twenty-first Report of Dental Hospital.'

'Transactions of the Odontological Society of Great Britain.'

'Journal of the Chemical Society' for April.

'The Monthly Review of Dental Surgery.'

'Lancet.'

'Medical Times.'

'British Medical Journal.'

'Le Progrès Dentaire.'

'The Athenæum.'

'Deutsche Vierteljahrsschrift.'

'Cambrian News,' April 4.

'The Dental Register.'

'Chemist and Druggist.'

'Le Progrès Médical.'

'Gazette Odontologique.'

'Pharmaceutical Journal.'

'Glasgow Medical Journal.'

'Correspondenz Blatt.'

'The Dental Cosmos.'

'Dental Hospital Calendar.'

British Journal of Dental Science.

No. 276.

LONDON, JUNE, 1879.

VOL. XXII.

Dental Surgery and Medicine.

NOTES ON A CASE OF NECROSIS OF THE SUPERIOR MAXILLARY BONE.

By ADOLPHUS B. ALEXANDER, L.D.S.R.C.S.E.

MR. P—, æt. 25, came to consult me on the 24th of May, 1878. He had a most anxious appearance, and wished to have his mouth examined.

It appeared he had contracted syphilis five years previously, and had been salivated, and suffered from severe sore throat. His constitution was feeble, and he was altogether the subject of severe syphilitic cachexia.

On examining his mouth all the teeth in the upper jaw were found loose in their sockets, and the lower teeth were perfectly firm. The tongue had fissures extending towards its tip, but had no ulceration. There was a yellow foetid discharge from the sockets of two loose incisors, and his breath was extremely offensive. There was great pain, tenderness, swelling, and suppuration arising from the alveolus surrounding the incisor teeth.

On passing the probe up between the central incisors dead bone could be detected, and the patient at that time refusing to subject himself to an operation for the purpose of its removal a gargle of chlorate of soda was prescribed.

On June 14th the mouth was slightly cleaner, but the sinuses were discharging freely, and there was thick purulent fluid oozing from both nostrils. On that day the right central and lateral incisors were extracted, and a quantity of foetid pus exuded from their sockets, and several pieces of bone were removed. In all eight sequestra were taken away, containing part of the internal alveolar plate, extending laterally from right canine to left lateral and upwards into the anterior nares, some of the floor of which was also removed, so that there was a large opening between the

mouth and nose, and fluid passed freely between them. Lotion of Condyl's fluid was prescribed.

July 3rd.—Discharge was much less and the mouth considerably cleaner.

12th.—Discharge still continuing. Continued syringing into nares several times a day.

24th.—Discharge almost ceased from the mouth, but continued slightly from the nose.

26th.—Suppuration ceased. Impression taken for a temporary artificial piece.

28th.—Patient greatly improved. Temporary artificial piece fitted to the mouth.

Patient then went into the country. He was not seen again until January 14th, 1879. He then complained of a slight discharge from the socket of the left central incisor, which was perfectly loose. Extracted tooth and some spiculæ of bone. Patient quite relieved.

February 12th.—Patient wears his case with comfort, can masticate, and has regained his general health. The other upper incisors still continue slightly loose. The patient otherwise has been enjoying good health up to the present time.

CASE OF CYSTIC DISEASE OF UPPER MAXILLA.

By EDWARD FOTHERGILL, Esq.

SOME time ago I was requested by my neighbour, Mr. Bell, to extract, from one his patients, a tooth which he judged to be connected with cystic swelling of the left upper maxilla.

The patient was a girl of thirteen, whose teeth from the left central to first bicuspid of same side were absent, but by means of a probe the apex and crown of the impacted canine could be easily distinguished.

The alveolus above the vacant space was bulged out by a firm tumour and perforated by several openings, through which foetid pus was discharged. On removing the non-erupted canine with a pair of strong stump-forceps, in connection with it a bony cyst of considerable size came away entire.

On examination after removal the mass was seen to consist of the crown of a *temporary* canine and a rounded bony crypt extending upwards in the direction of the fang, and then recurved to the level of the middle of the crown.

A vertical section showed a large cavity containing a mass of suppurating pulp, the healthy portion of which resembled ordinary "dental pulp."



FIG. 1.—Position of cyst as in maxilla.

A. Crown of tooth. B. Opening into cyst. C. Expanded portion of cyst.

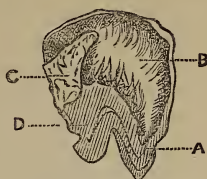


FIG. 2.—Vertical section.

A. Crown of tooth. B. Cyst cavity. C. Pulp mass. D. Irregular mass of dentine.

The cyst-wall is of variable thickness, and appears to be formed by the expansion of the root of the tooth, the external surface having the appearance of cementum.

I have since heard that the recovery of the patient was satisfactory.

DENTAL CARIES.

A paper read before the Students' Society of the Dental Hospital of London, March 10th, 1879.

By H. DAVIS, Esq.

MR. PRESIDENT AND GENTLEMEN,—The subject which I have chosen for my paper to-night is, I consider, the one of most vital importance to us as Dental surgeons. Without caries our speciality would hardly have been called into existence, for upon it depends almost entirely both our mechanical and surgical work.

I have thought it necessary for the full understanding of my subject to commence by stating briefly the process of formation of the enamel and dentine.

In the embryo, a portion of the oral epithelium on the margins of the jaws dips down into the submucous tissue, and this, developing into a bell-shaped process where the future tooth is to be formed, the intermediate portion becoming atrophied, forms what is termed the enamel organ; soon after the ingrowth of epithelial structure, a process of the submucous tissue grows up, assuming roughly the shape of the future tooth; this process, which is called the dentine

papilla, as it grows passes into the bell-shaped enamel organ.

The internal surface of the enamel organ is lined with columnar cells, from which the enamel is formed; these cells from mutual pressure are prismatic in shape.

The external layer of cells on the dentine papilla are also columnar, and go to form the dentine.

The enamel is calcified from within outward, the individual cells having the lime salts deposited in them, first at the periphery, the axis of the cell being first to calcify. The dentine calcifies from without inward, the cells, like those of the enamel, being calcified from the periphery to the centre. The lime salts are deposited first in globular masses, which ultimately coalesce; in faulty teeth, however, this coalescence does not take place, and thus are formed the so-called interglobular spaces.

In teeth with more than one cusp, like the molars and bicuspid, there is a starting point of calcification for each cusp, the deposit of salts radiating out from these centres, until finally they all unite. In faulty enamel, however, this union does not take place, minute fissures being the result.

This is all, I think, necessary to say about the development of these tissues, and I will, therefore, at once commence my subject.

The term caries was given to the decay of tooth-substance by the older writers, as they imagined the disease was analogous to the affection of bone known by that name; it is now certain, however, that there is little resemblance between the two; caries of bone being an inflammatory process, originating in the soft tissue and extending to the hard, whilst caries of the teeth commences in the hard tissue and spreads towards the soft; there are many other differences which, however, it is unnecessary to discuss.

Salter gives us, I think, the best definition of caries. He says, "Dental caries is a softening and disintegration of the tooth's surface, gradually penetrating towards its centre."

Caries is an entirely external affection depending for its production upon influences outside the teeth, modified to a certain degree by vital action.

Wedl describes two chief kinds of caries, one he terms chronic, the other acute. The acute form, which runs its course in a few months, is light in colour and of a moist nature. The chronic, which may take years before the destruction of the tooth is complete, is dark and, as one would expect, dry, in contradistinction to the acute. There are, of course, intermediate cases between these two extremes.

The outward appearances presented by caries differ somewhat according to the position in which it occurs; if it commence in a fissure or crack, the indications of disease may be slight, a black line or speck being all that is seen externally, but on chipping away the surrounding enamel, one often finds that extensive mischief has been going on unnoticed. When, however, caries attacks an unbroken surface, the part first attacked loses its translucency, becoming opaque and white. If the enamel in this stage be examined it will be seen that the surface is covered, as it were, by a large number of minute cracks; these cracks, which existed to a small extent in the healthy tissue, have by the disease become widened, and by this means the continuity of the enamel prisms has been broken, thus occasioning the opacity. After a time the opacity gives way to a discoloration or pigmentation of the enamel attacked, the pigment in caries of long standing being of a deep brown colour. As the continuity of the enamel prisms becomes more and more interrupted, the corresponding enamel breaks down, until finally the surface of the dentine is exposed.

The appearances presented by dentine in caries differ from those of the enamel. It first loses its opacity, becoming translucent; this is followed by a deposition of pigment, the pigmentation, however, becoming less marked towards the central part of the dentine.

The first stage in caries of the dentine may be said to be the process of development reversed, the earthy salts surrounding the dentinal tube being first removed. A section transverse to the tubes in this stage presents under the microscope an appearance as though it had been built up of a number of "tobacco-pipe stems," united by an intervening substance, as Tomes aptly describes it. After the calcareous salts have undergone solution a superficial disintegration takes place, the walls of the tubes, or "dentinal sheaths" of Neumann, being the last to disappear, owing to their peculiar indestructibility.

The tubes of the dentine in caries present a swollen, varicose appearance. To what this was due was for some time unknown, until Leber and Rottenstein, by the application of a solution of iodine and acid, were enabled to demonstrate the presence of a fungoid growth called *Leptothrix buccalis*, the proliferation of which caused the swelling and varicosity.

Tomes states that the dentinal fibrils calcify as caries advances. Wedl, however, although he does not absolutely deny, yet says he has not been able to satisfy himself that

they do so, and appears to think Tomes must be mistaken. This calcification, however, seems to me to be in accord with another phenomenon, that of the formation of secondary or "dentine of repair," by the pulp upon the advance of caries.

The causes of caries may be divided into predisposing and local. The predisposing are subdivided into three main classes: 1st. Faulty development; 2nd. Overcrowding in the dental arch; 3rd. Constitutional and hereditary.

In the first class we may have an imperfect calcification of the enamel, the disease thereby obtaining easy access to the dentine, in which it rapidly spreads. The fissures also, to which I briefly alluded in speaking of the development of the enamel, are favourite seats for caries. The interglobular spaces formed by the non-coalescence of the globules of earthy salts during the development of the dentine, are said to predispose it to caries.

The crowding of the teeth, which is unfortunately becoming more and more prevalent as civilisation advances, causes caries in two ways, one by crushing the enamel where the contiguous surfaces of two teeth come in close contact, and thus exposing the dentine, the other by allowing the accumulation of decomposable matter in places from which it cannot easily be removed, as at the necks of the proximal sides of the bicuspid and molars.

The constitutional causes of caries are various; in fact, all illnesses affect the teeth more or less. This is due, no doubt, to the fact that the natural secretions of the mouth become altered, the alkaline saliva becoming less in amount, whilst the acid buccal mucus becomes abnormally secreted, and this not being washed away and dissolved by the saliva as in health, stagnates between and around the teeth, collecting particles of food and other *débris*. Acid eructations also no doubt affect the teeth.

Tomes mentions a case in which nearly every tooth was affected by caries during a severe attack of rheumatic fever, although up to the age of forty, when the illness occurred, the teeth had remained quite sound.

Wedl enumerates several diseases which particularly influence the teeth, the principal of which are—diabetes, dyspepsia, rickets, phthisis, and the exanthemata.

The hereditary causes are very vague, although they undoubtedly exist; for we often see the teeth of whole families showing marked tendency to decay. The only explanation we can give is, that some hereditary defect is handed down from parent to child by those mysterious means by which various diseases, such as cancer, phthisis, and other maladies,

and also family peculiarities, as the colour of the eyes and hair, are kept up.

That certain races of mankind are more subject to caries than others is now an established fact, and from Magitot, who has given much attention to this subject, we gather that it is notorious that, in certain families and in certain races, caries is a common and habitual disease. Now, it is impossible to grant that in this way an affection can be transmitted which is, as we shall see, in great part only a chemical alteration of tissue; and one could apparently draw from these cases arguments against the doctrine which we are supporting. This argument is specious, and it is necessary to point out that, though it is impossible to inherit caries properly so-called, that is to say, the cause or germ of the disease, we may readily grant the power of transmission of certain anatomical structural predisposing causes. This is the case, and nothing is more remarkable than this analogy in the character and form of the teeth in the members of the same family, or of the same group of persons of the same race. Thus we have established the existence of vicious arrangements of the dentition, irregularities which are reproduced for several successive generations.

On the other hand, we know that certain conditions of shape, colour, and doubtless of ultimate structure, form the ethnological characteristics of certain populations; it is not, then, hard to admit the prevalence of anatomical predispositions to decay.

It is thus that certain teeth of a bluish-white hue, which owe this feature to the defective consistency and homogeneity of their elements to the large size of the tubules and their anastomoses, to imperfect calcification of their enamel, are almost inevitably predisposed to caries. It is the same with teeth which present whitish transverse grooves, alternating with more transparent zones, which indicates irregularity in the structure of the successive layers, whilst teeth of a milky-white colour, a little transparent, or greyish, are usually of strong and resisting conformation.

These considerations help to explain the difficult subject of endemic caries, which has been variously ascribed to local circumstances, as the neighbourhood of rivers, the use of certain waters, of special drinks, &c.

Cider, for instance, has been accused of causing great havoc amongst the teeth of the Normans, but many Normans, who rarely take cider, show the same predisposition to caries. Again, hereditary predisposition may be taken as applying to tendencies to morbid states of the saliva, as well as structural defects in the teeth.

No precise statistics are available as to the relative pre-disposition of the great families of mankind to caries, but broadly speaking we know that caries is rare amongst Negroes and Arabs, and most common amongst the Caucasian races, the Mongols holding a middle place. Mixed races suffer more than pure ones, and those who have left their native land become more susceptible to the attacks of caries.

(To be continued.)

REPLANTING TEETH.

A CORRESPONDENT states that in the preparation of the tooth for replanting or transplanting, he fills the the foramen at the end of the root, by inserting in it a gold screw that will completely fill it, then fills pulp chamber and cavity of decay, then upon the surface of the root cuts a groove from apex to neck, this facilitates the escape of the blood as the tooth is placed in the socket.

This, it is alleged, will obviate the pain that otherwise sometimes accompanies the replacement of a tooth.

This groove would rarely, if ever, be required, in transplanting, from the fact that an absolute adaptation of a root to another socket is never found.

Replanting is becoming more and more a favourite method of treating alveolar abscess.—*Dental Register*.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM APRIL 1ST TO APRIL 30TH, 1879.

Extractions	{ Children under 14	400
	{ Adults	658
Under Nitrous Oxide		305
Gold Stoppings		78
White Foil ditto		19
Plastic ditto		372
Irregularities of the Teeth treated mechanically		29
Miscellaneous Cases		205
Advice Cases		92

Total..... 2158

LAWRENCE READ,

Dental House-Surgeon.

NATIONAL DENTAL HOSPITAL AND COLLEGE.*

THE Annual Distribution of Prizes to the successful students at the above institution took place at the Beethoven Rooms, Harley Street, on Tuesday, May the 6th, 1879, at 8 o'clock p.m., Edwin Saunders, Esq., F.R.C.S., in the chair.

The DEAN (Mr. Oakley Coles) then read the following report:

In presenting the Report for the last sessional year of the National Dental Hospital and College, it will be unnecessary, upon such an occasion as the present, to enter into all those details that make up the successes or failures of educational life. It will be sufficient to say that our students have shown the usual standard of zeal in the acquirement of learning, and our staff of lecturers have displayed their accustomed assiduity whilst imparting to their several classes that special knowledge which it has been their particular duty to teach. It will thus be seen that we are in the happy position of mutual satisfaction, if not of mutual admiration.

Those of us who have taken note of the remarkable changes that have been brought about in the prospects of the Dental profession by the legislation of last year have watched with great interest the movements and policy of the General Medical Council. We have, in fact, led a sort of tadpole existence, always wondering "what next?" Our fears are now allayed, and many of our hopes and wishes (in promise at least) fulfilled.

All doubts are, we trust, for ever set at rest as to the general outline of Dental education and professional requirements. For the curriculum of the Dental licentiate, although it may in the future be elaborated, will never we believe be superseded as the essential qualification of the Dental surgeon.

The Executive and Staff of the National Dental Hospital and College rejoice most heartily in such a settlement, and trust that their energies, as well as those of the workers in professional progress in the other centres of learning in this kingdom, may now be devoted to the highest development of Dental science, based on a sound knowledge of general medicine and surgery. For we look forward to the day with no doubting hearts when a Dental surgeon

* We have to thank the editor of the 'Monthly Review of Dental Surgery' for his courtesy in sending us this report.

shall be regarded, both in scientific and social life, not as something less, but as something more, than a surgeon, since he shall add special skill to general knowledge.

As members of one of the two Dental educational bodies in this metropolis, we feel that we should not allow so auspicious an occasion as the present to pass by without some declaration of our policy and obligations.

Primarily we desire the progress and elevation of Dental education. Secondly, we wish for the success of our own school. Such aims show at once our political programme, and indicate our readiness to make such changes and combinations as mature consideration may seem to indicate. We feel that the present is a period of transition, and that the future of the Dental profession depends, more than it has done perhaps at any previous time, upon a wise, liberal, and unselfish policy in the present.

Mutual concession, faith in each other, and the suppression of the obtrusive, "*ego*," must form the essential characteristics of our actions, and in so far as we are true to these in the present, in just so far shall we merit the reward of the future.

Our obligations must not be forgotten, and we wish to record our appreciation of the work of Dental reform, first commenced, and for many years (apparently hopelessly) carried on, by Charles James Fox. This is neither the time nor the place to enlarge upon the obligations we are under to that gentleman, the 'British Journal of Dental Science' is the best record and exponent of what he has done for Dentistry during the last fifteen years, and the profession are not unmindful of his labours.

Dental reform in the hands of Charles James Fox developed fully into Dental education in the hands of John Tomes, and he whose sagacious brain drew up the curriculum for Dental students twenty years ago, has had the satisfaction of completing the work begun then, by being mainly instrumental in obtaining the Act of Parliament last year, which confirms the soundness of his previous policy, and the wisdom of his fully matured scheme.

One other obligation most recent, but certainly most lasting, remains to be put on record by the Executive of the National Dental Hospital and College. It is the great good nature with which Mr. Edwin Saunders consented to preside at this public distribution of our prizes. We are most deeply sensible of the generous sentiments that have prompted him in this action, and the liberal interest he thus takes in an institution, with which he has not hitherto been so intimately concerned, as with our sister school in Leicester

Square. But Mr. Saunders has afforded on two notable occasions such substantial evidence of his interest in all educational matters, that his presence amongst us to-night will be gratifying to every one, whilst it adds to the many obligations that the Dental student is already under to him. Prizes so hardly won, as those about to be distributed, will possess in the esteem of the successful students an increased value, in thus being received from the hands of "one whom we all delight to honour,"

The following is a list of the students who received prizes and certificates of honour :

The Rymer Medal (Gold) for General Proficiency	.	Mr. W. Bates.
Dental Mechanics	. . . { Prize Medal	Mr. W. Bates.
	. . . { Certificate	Mr. D. M. Humby.
Dental Anatomy and Physiology	. . . { Prize Medal	Mr. W. R. Humby.
	. . . { Certificate	Mr. Patterson.
Dental Surgery and Pathology	. . . { Prize Medal	Mr. W. Bates.
	. . . { Certificate	Mr. B. A. Williams.
Metallurgy	. . . { Prize Medal	Mr. Patterson.
	. . . { Certificate	Mr. E. T. Gabell.
The Elements of Dental Materia Medica	Certificate	Mr. W. Bates.
Elements of Histology	Certificate	Mr. W. R. Humby.

The prizes having been distributed by the chairman, Mr. Saunders, delivered an address as follows :

Ladies and Gentlemen,—The ceremony just ended, simple and unostentatious, as all such ceremonies are in this country, in consonance with the genius and sentiment of the people, is not without deep and serious significance to those more immediately concerned. To know that we have earned the approbation of those who are placed in the responsible position of our instructors in the science and practice of the profession to which we have resolved to devote ourselves, must be a source of satisfaction to every well-regulated mind. And although on such occasions as the present we do not, like our more impressionable Continental neighbours, look for gorgeous accessories, uniforms, vestments, or academic robes, yet, being human, we do not profess to be uninfluenced by the presence of those who take a kindly interest in our proceedings. To the prize winners these tokens of their proficiency, and of the regard and esteem of the lecturers, acquire quite a new value from the manner in which they are bestowed ; for you have by your encouraging presence ratified the award and set the seal of your approbation on their choice. He must be indeed insensible who is not conscious of some exaltation of feeling, like the first flutterings of ambition stirring in his breast, under such circumstances.

"Fame is the spur that the clear spirit doth raise
 (That last infirmity of noble mind)
 To scorn delights and live laborious days,
 So the fair guerdon may we hope to find."

To the recipients of these substantial rewards any remarks of a purely congratulatory or encomiastic nature would be superfluous and might be distasteful. But I will express a hope that, when hereafter these tokens of early achievement are, with a pardonable pride, brought forth on birthdays and anniversaries for the delectation of an admiring home-circle, they may always be associated with the year in which they were bestowed. This year will always be regarded as a very memorable one in the annals of the profession, being signalised by the Act of Parliament, to which your Dean has already referred, which provides that for the future those only shall find admittance into the profession who shall be duly qualified by previous training and whose names shall be found on the Register of the General Medical Council. Nor should the names of Mr. Tomes and Mr. Turner be allowed to fade from the memory, for it is to their persistent and vigilant exertions, aided, within the profession, by the able and consistent advocacy of the journals devoted to our speciality, that we owe it that we are in possession of this broad and comprehensive measure.

The profession of which you have made choice, and for which you are worthily preparing yourselves under the auspices of this educational institution, is a very exacting one, and one for which, on that account, some natural aptitude is desirable in him who would follow it with success. From the nature of the practice, and from the necessity of being always at home for consultation, you will have little time or energy for the cultivation of other pursuits or for devotion to art if your taste should lie in that direction. When fairly launched in successful practice, besides the fatigue attendant upon long hours of work, continued daily in a standing and stooping position, and occasional disappointment in the results of that work, you will have need of great forbearance and inexhaustible patience towards the objects of your skill and labour. For you have to do difficult work under disadvantageous circumstances, in which you are much hindered by repugnance on the part of the patient, and by the sensibility of the structure with which you have to deal. But this is a world of compensations, and though you may sometimes feel the restraint of home consultations, you are spared exposure to the vicissitudes of the weather and the tainted atmosphere of the sick room, and though your ministrations may some-

times be accepted in a petulant or querulous spirit, you have not the gnawing anxieties which will not be put aside where the issues are of life or death. Nay, you will not unfrequently receive the grateful acknowledgments of your patient for relief afforded promptly and painlessly under one of the most agonising and prostrating, as well as one of the most prevalent forms of human suffering, or for restored health and prolonged life due to your efforts in aid of lost or failing digestive power. It appears to me that there never was a more propitious time for entering the profession, for although there is a larger number of accomplished and well-educated practitioners than was ever before known devoted to this branch of surgery, yet this large influx can scarcely keep pace with the demand created by the growing estimation in which it is held. Registration and recent legislative enactments, together with such educational advantages as are afforded by our two great special hospitals and schools, must have the effect of placing the profession of Dental surgery on a higher platform, if only by the assurance which is thus given that for the future admission within its ranks will be restricted to those who have given satisfactory proof of their fitness for the work. And here the mind naturally reverts to a time, quite recent, and easily within living memory, when there was no systematic teaching on this subject—when a short course of lectures on the Anatomy and Diseases of the Teeth at one of the large hospitals, more adapted for the general practitioner to assist him in emergencies in the provinces or in the colonies than as a means of instruction in Dental surgery, was all that was within reach of the student—when not only was there no Odontological Society for the encouragement of research and the sharp criticism of rules of practice and modes of treatment, no journals and no periodical gatherings of members of the profession for mutual advancement and edification, but each man's practical knowledge and experience were most jealously guarded from his brother practitioner. Such a state of things, as discreditable to the practitioner as prejudicial to the profession, has happily now passed away, and with it let us hope the narrowness and rivalry which are indigenous to such a state of things. The increased educational facilities already alluded to, and the remarkable progress which has been made during a like period in this branch of the healing art, place it within the power of any one possessed of the requisite intelligence, assiduity, and enthusiasm, to reach a high standard of excellence. That you have known how to profit by these advantages is shown by the proceedings of this evening, and while congratulating

you on your past success I will express a hope that by a continuance in the same course of zealous and diligent application you may come to occupy a distinguished position in the profession.

And now, ladies and gentlemen, not to detain you longer from those sweeter voices which the Council have wisely and considerately provided as an antidote to these prosaic utterances, it only remains for me to beg you to accept our thanks for your presence on this occasion, and to assure you that your favour and countenance are a great encouragement both to the teachers and the taught. More especially do we desire to express our sense of obligation to the ladies who have lent a grace to our proceedings; for, as in the old days of chivalry, at the joust and tournament the mailed and visored knight drew his highest inspiration and incitement to deeds of prowess from woman's approving smile, so in these modern and more prosaic times, and at these more peaceful contests in the realms of learning and science, the man of culture acknowledges the same benign and animating influence.

A hearty vote of thanks having been awarded to Mr. Saunders for his kindness in presiding, and for his address, a programme of vocal and instrumental music was gone through, and a very pleasant evening was spent.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM APRIL 1ST TO APRIL 30TH, 1879.

Number of Patients attended	985
Extractions { Under 14	362
{ Adults.....	446
{ Under Nitrous Oxide	47
Gold Stoppings	30
Other Stoppings	187
Advice and Sealing	111
Irregularities of Teeth	22
Miscellaneous.....	40
Total operations	1245

THE LIVERPOOL DENTAL HOSPITAL.

THE annual meeting of the patrons and subscribers of this institution was held on Tuesday, the 21st January, 1879, in the Mayor's Parlour, Town Hall, Liverpool. The chair was occupied by His Worship the Mayor (T. B. Royden, Esq.).

The eighteenth annual report, which has just reached us, shows an increased usefulness of the institution in affording relief of so important a nature to the suffering poor of this large town.

There has been an increase of 1526 patients admitted, and of 1195 operations performed during the past year.

The following is a tabular statement of the work done :

Number of patients attended	8957
Extractions (Adults)	5424
" (Children)	6220
Filling, Scaling, &c.....	310
Irregularities	452
Miscellaneous and Advice	329

12,735

The Treasurer's Account unfortunately shows a deficiency of £18 19s.

The total income for the year 1878 was £159 9s.; the total expenditure, £154 17s. 9d. A balance of £23 10s. 9d., due to the Treasurer on 31st December, 1877, has thus been reduced to £18 19s.

The Mayor said it was evident that the Dental Hospital was doing an immense amount of good, as clearly evinced by the extent of its operations during the past year, and from day to day. He thought this institution was justly entitled to the warmest support of the public, and trusted that its prosperity in the future will be even greater than in the past.

At a meeting of the committee, held on the 2nd instant, it was announced that the Right Hon. the Earl of Derby had been pleased to accept the presidency of this institution in the place of Lieut.-Col. Steble, resigned.

British Journal of Dental Science.

LONDON, JUNE, 1879.

AFTER all the excitement and discussion that has pervaded the Dental profession during the last three or four years, the present calm would give rise almost to a feeling of depression, were it not that it arises chiefly from the feeling of conscious security in the stability of the work that has been accomplished, and confidence that those who have brought it so far to so splendid a conclusion are still quietly, but steadily, at work in the interests of the profession which already owes them so much.

The calm to which we have alluded is, however, more apparent than real, for, after the recent storms there still remain a strong undercurrent of professional popular excitement, a sort of ground swell, over which the barque of Dental Reform still needs to be carefully guided.

The evidences of the existence of this subdued agitation may be seen in the prompt institution of the Western Dental Association, in the establishment of Dental Hospitals and Schools in Edinburgh and Glasgow, in the formation of a Society of Dental Surgeons in Dublin, with another Dental Hospital, and in the numerous letters containing suggestions of all kinds, as to the work to be carried out by the new British Dental Association, which have been addressed to us. In view of these divided, yet not necessarily conflicting interests, it is earnestly to be hoped that those upon whom will fall the duty of framing the constitution and rules of the proposed British Dental Association, will bear in mind the advisability of introducing some such regulations therein, as will enable it to become a common centre of union in which all these various bodies and interests may be fairly represented.

Many years ago we urged the advisability of branches of the Odontological Society being instituted in the various

towns and districts throughout the United Kingdom ; surely a preliminary conference might now be possible between representatives of the different institutions we have indicated, to devise some means, before it is too late, to prevent that division of feeling, and creation of new party interests which, if not absolutely fatal, would considerably retard the future progress of Dental Surgery.

Literary Notices and Selections.

Proceedings of the General Medical Council and of the Executive Committee in regard to the Registration of Dentists. Published and sold for the Medical Council by Spottiswoode & Co., 30, Parliament Street, London, 1879. Price 1s.

IN our April issue we alluded to a special report of the proceedings of the Medical Council in relation to Dentists which we were preparing, but for want of space we were then unable to publish. Since then so full and complete a compilation of the proceedings of the Council in reference to this subject has been drawn up and published by the zealous and indefatigable Registrar, Mr. W. J. C. Miller, that it is quite needless for us to give our readers what would simply be a reprint of his excellent and valuable little work, which can be had for so small a sum, that every Dentist who wishes to make himself fully informed on the subject should hasten to possess himself of it.

MANAGEMENT OF PROXIMATE SURFACES OF BICUSPIDS AND MOLARS.

By SAFFORD G. PERRY, D.D.S., New York.

Read before the New York State Dental Society, May, 1877.

(Reprinted from the 'Dental Cosmos'.)

It is with no little hesitation that I attempt the consideration of a subject so important as the management of the

proximate surfaces of the teeth. I am impressed with the belief that we perform no operations that call for such conscientious effort, such sound judgment, such ripe experience.

A great part of our daily labour is devoted to the care of these surfaces. Reference to one of my chart-books shows that from a total of 6187 fillings, 607 were upon the buccal, labial, and lingual surfaces, 2990 upon the grinding, and 2590 upon the proximate surfaces. As the largest number of difficult operations were upon these surfaces, it is probable that half my time has been given to their care.

With reference to the treatment of buccal, lingual, or grinding surfaces, there can exist but little difference of opinion. Methods may differ, but results must practically be the same.

Regarding the treatment of proximate surfaces there exists the widest difference of opinion. One operator of large experience and recognised ability emphatically declares that the teeth should be permanently separated." Another of equal experience and ability as earnestly insists that they should be restored. Who shall decide when doctors disagree?

Is it possible to gather from the different modes of practice any conclusions which, combined, may serve as a general guide in the management of these surfaces, and which may enable one to perform the operations required on them in a more permanent manner than has been generally done heretofore? I believe it is. I consider that there are scientific principles that should guide one in these operations, as in all others, and I think the time has come when these principles should be more generally recognised. I shall endeavour to make them clear by carefully considering the two opposing systems.

First, then, with reference to the permanent separations. A man need have but little experience to know that a tooth that stands alone seldom decays. He must also learn that operations on the proximate surfaces are greatly simplified by freely cutting the teeth away. Selfish interests conspiring with his common sense would naturally lead him, then, to adopt the system of permanent separations as a general rule of practice. His experience might be fairly taken as the average experience, so that the system of permanent separations might be expected to prevail during the early period of our profession.

I suppose the radical as well as conservative advocates of separations will agree in considering the ideal space to be that made by the extraction of a tooth. Such a space insures a hard, cartilaginous, healthy gum, the complete exposure of

the surfaces of the adjoining teeth, as well as absolute safety from lodgment of food.

If this ideal space, even in reduced size, could be maintained between the teeth there would be but little danger of decay upon the proximate surfaces. But as such a condition would necessitate the extraction of every alternate tooth, it cannot be said that ideal separations will ever become practicable. The nearest approach to them are the spaces that may be made between teeth of broad occluding surfaces and narrow necks,—a slice being taken off each proximate surface, and the separation carried freely through the gum. If the jaw has attained its full size, the wisdom teeth are fully erupted, and the occlusion of the opposing teeth favorable, such spaces may permanently remain as we leave them. If the cavities on the proximate surfaces are so small as not to reach below the margin of the gum, and the space so made that food will not lodge, the gum will remain attached to the necks of the teeth, and continue in a state of perfect health.

This, I suppose, will be accepted as the most perfect separation that can be practically obtained without the extraction of a tooth. If not the most perfect in all respects, it certainly insures the greatest safety to the proximate surfaces of the teeth.

If the cavities on the proximate surfaces are so large as to extend under the gum, the fillings must be most carefully finished along the cervical wall, else there will be at this point a chronic state of inflammation of the gum, which will unsuit it to bear the impact of food, and will favour the recurrence of decay. Even if the fillings are most carefully finished, there may still exist a slight departure from health on the part of the gum, though not sufficient to cause discomfort or do appreciable harm.

The conditions requisite for this most perfect separation—the teeth with broad crowns and narrow necks, the adult jaw, and the favorable and permanent occlusion—are not very generally met with.

I suppose it will be conceded that the next most favorable space is that which may be made between short teeth of large necks, and which stand close together at the gum.

Between such teeth a parallel space of equal width on the buccal and lingual side may be cut down to near the margin of the gum, and gracefully curved in the form of an arch. This leaves a shoulder on each tooth terminating at the gum, which serves to keep the teeth in their normal position, and to protect the gum. The space should then be somewhat widened on the lingual side, and so shaped as to be self

cleansing. To get the full benefit of such a space the shoulder must not on any account be carried below the gum, nor must there be the slightest space between any two teeth at this point. The teeth must stand so tight that even the slight lateral motion in mastication will not permit sufficient spreading to allow stringy particles of food to force through against the gum.

The space must be a liberal one, else there will not be a constant change of the particles of food and mucus that settle in it, and which, if allowed to remain, would ferment and cause decay.

It must not be carried under the gum the slightest, for if it did not cause irritation of that tissue at that point, it might cause irritation by exposing the festoons of the gums on the lingual and buccal side. On the other hand, if the space is not carried up just to the gum, but the teeth are allowed to remain in contact some little way down from the gum, a recurrence of decay may be looked for just above the exposed shoulder and near the gum. Such a result would be disastrous in the extreme, as the success of such a separation as this depends upon the solidity of the structure of the tooth just at the gum. Once let disintegration of this shoulder commence and there can be no security until it is restored with gold. If this be done judiciously the teeth may be considered comparatively safe.

It cannot be denied that there are strong reasons in favour of such separations as these, though the number of teeth between which they may be made is also not very great.

The advantages consist in the simplification of the fillings required, the readiness with which the surfaces may be examined, and the ease with which fillings may be replaced when required.

Such spaces may also be easily kept free and clean by careful patients. Their shapes are such that they will be kept reasonably clean even in the mouths of careless patients. It is between this class of teeth and in this way that separations in anticipation of decay can best be made, and at an earlier age, owing to the slight danger of change of position.

On the other hand there are some serious objections to these spaces as well as those first described.

One of the greatest is the loss of so much of the masticating surface of the teeth. With our ideal space, it amounts to the loss of a whole tooth. With the other spaces, no inconsiderable portion of each adjoining tooth must be cut away.

Aside from the sensitiveness that often follows this cutting,

I think it will not be denied that there is increased danger of decay from exposure of the dentine. This is particularly true of the teeth that stand in contact at the gum, especially if they are of poorly calcified structure. If decay often occurs on the exposed buccal surface, so it may oftener be expected to take place on these cut surfaces, just at the curve which forms the shoulder, or at the exact point of contact. And if such a space is made before the wisdom teeth are erupted and the jaw in a permanent state, there is also the danger of the crowns tipping together at the grinding ends, the shoulder at the gum acting as a pivotal point.

With the free space first mentioned there is also the loss of lateral support, which, in the mastication of hard substances, is a matter of no small account. It should be remembered that teeth, like soldiers in line, need the support of their fellows when the hard work of the battle commences. This is doubly true when the teeth are not firm in their sockets, through disease of the gums or absorption of the alveoli.

If, then, to offset the advantages, we have found serious objections to this system of separation, even when applied to the teeth best suited to it, what may we expect from the large number that are not suited to such treatment? As, for instance, a large proportion of the narrow-necked teeth first described, which cannot with safety be separated owing to the fact that the wisdom teeth are not yet erupted, or the occlusion not such as to prevent the cut teeth from closing up.

The eruption of the wisdom teeth may crowd the teeth forward, or the loss of a tooth on the opposite jaw may so change the force brought to bear by the occluding tooth or teeth, that the space which was at first self cleansing and secure may close up and become a source of annoyance and of danger.

In the description I gave of the first and, as it seemed to me, most favourable class of separations, I assumed that the teeth would not change position. Could I be certain that in five or ten years there would not be a decided change of position of even these teeth? Who can so accurately estimate the forces continually operating in the mouth as to assume that at a given time a certain tooth will occupy a given position?

It must be remembered that motion is always in the direction of least resistance, and if the teeth are cut, and motion allowed, it will be difficult to tell the position they may occupy a few years hence. How few, alas, ever stop to think that they may change position at all! It seems,

then, that our favourite space cannot be made with safety until adult life.

But what is to be done before that time, which is the period of most rapid decay? Knowing the danger that arises from contact of the teeth, shall we separate, and if they close separate again, and so on *ad infinitum*? Let those martyrs who have experienced this treatment answer.

There still exists a large number of teeth which have neither narrow nor broad necks, and between which separations of any kind cannot be made without risk. Their necks are slightly narrower than their crowns, and yet not sufficiently narrow to allow self-cleansing spaces when they are cut down to the gum, as before described. Nor do they stand near enough at their necks to allow the shoulder to be made just at the gum.

If a shoulder is left to hold the tooth in place, and protect the gum, its position must be determined by the taper of the teeth from the grinding surface towards the gum. If the teeth taper much, it will necessarily be nearer the grinding surface; if but little, it will be nearer the gum. If the point of contact must be near the grinding surface, the danger of decay is but slightly lessened by cutting the teeth,—for still all that surface above the point of contact is in danger,—since it is well known that decay generally commences just above the point of absolute contact. If the teeth do not taper much, and the point of contact can be carried near the gum, but not to it, then we are no better off, for that diminished surface between the point of contact and the gum is still in danger.

It is even more certain to decay, because the cut forms such a deep and acute V that mucus and minute particles of food are sure to lodge at the bottom of the space and ferment there.

An examination of teeth that have been cut in this way will show that these spaces are inviting pockets in which food and mucus find a secure resting place.

Cutting down too near the gum only transfers the point of contact farther from the grinding surface, and to a point more inaccessible and more difficult to fill if decay recurs.

If a double V-shaped space be made, opening on the lingual side, and extending to the gum, and reaching a quarter, a third, or half the way to the gum on the buccal side, still the same danger of decay exists near the gum towards that side. Such a space also forms a dangerous pocket, besides exposing the gum on the lingual side. There is also the danger of final rotation of the teeth in their sockets and partial closing of the space. There will be the same dan-

gerous pocket if the space be made upon the buccal side, or if made partly upon the buccal and partly on the lingual side. If made upon the buccal side, there will be danger near the gum on the lingual side. If made equally on the buccal and lingual sides, the triangular surface between the cuts and above the point of contact is still in danger.

So certain are these spaces to catch and retain food and mucus, and so certain is decay to recur near the point where they do touch, that it is wise that the advocates of this system urge that the teeth be occasionally pressed apart and the surfaces polished.

If the separation is carried through to the gum with no attempt at leaving a point of contact, even a worse condition may be expected. In this space, which between this class of teeth cannot be made wide enough to be self-cleansing, food lodges, is forced against the gum, and remaining undergoes a fermentation, and encourages decay of the most rapid kind, besides inviting it to the most inaccessible part of the tooth.

Some of the advocates of this system prefer this kind of space, claiming that the discomfort of food pressing against the gum insures its removal. I think, however, that it is not true that pain is always felt, for the gum after a time loses its sensibility, and fails to report the presence of a foreign substance. This very absence of discomfort may encourage a false security, the minute particles of food and mucus being allowed to remain to hasten their fatal work.

The crowding of food between the teeth, I am forced to believe, is one of the worst consequences that may be expected to follow this aimless tampering with the shapes of the teeth.

Patients may assert that they have no trouble of this kind, yet a careful examination of the spaces will show an inflamed and spongy condition of the gum, which is sufficient evidence that an unnatural condition exists at this point. Generally there is great annoyance, and I have often seen spaces between teeth of this class that were enough to test the patience and Christian fortitude of the elect. If we have found so many serious objections to the plan of permanent separations, and have reason to feel disappointed with the general application of a system from which so much good has been promised, and from which so much evil has arisen, may we hope for more encouragement in considering the opposite method, which consists in the restoration of the shapes of the teeth? I think we may.

I am convinced that the system of restoration as it can now be practised, while avoiding the dangers, includes

nearly all of the advantages of the system of separations. It also possesses some other very important advantages.

As to the danger of allowing the teeth to stand in contact, I am willing to grant all that may be claimed by the most uncompromising advocate of separations. But I know of no way of accomplishing this separation so securely as by cutting the teeth away enough for this purpose in preparing the cavities, and then restoring their shapes with gold.

It has been generally considered that the permanent separation of the teeth is accomplished only by cutting them apart. It has either not been observed, or it has been forgotten, that the teeth can be, and with larger proximate fillings necessarily are, permanently and securely separated by the perfect restoration of contour.

Occasionally there comes under our observation a perfect, or nearly perfect, set of teeth. The teeth stand firmly together, the gums are safe, and the occlusion perfect. Such a natural condition exists that the patient is not even conscious of having teeth. We are struck with admiration as we linger over this example of nature's perfect work.

In a large number of the mouths that come under our care we can have practically the same condition. Large fillings may be required, but if they are properly shaped the same healthy gum and perfect occlusion may be secured. If the teeth have been sadly mutilated and displaced before coming into our hands, our task may be a trying one. In many cases it may be so difficult that, considered in all its relations, it will be unwise to attempt it. If we are not very perfect operators, it may not be wise to attempt it at all. But if we have entire charge of the patient from the time of the eruption of the teeth, this very desirable condition may be secured far more easily.

Let us then consider how it may be accomplished, as well as how we may secure more lasting operations on the proximate surfaces, as was promised in the beginning of this paper.

Let us take an imaginary case. Two small cavities appear on the proximate surfaces between the bicuspid. We will suppose the operator to be opposed to permanent separations; therefore the teeth are wedged apart to give room to insert the fillings. After the operation they settle back in contact as before.

Two or three years go by, when an examination reveals a recurrence of decay about the margins of the fillings. Again the teeth are wedged apart, the fillings removed, the cavities somewhat enlarged and refilled as before. A few

more years elapse, when again a recurrence of decay is discovered. Once more the teeth are wedged, though not so far this time, for now the cavities are so large that it is evident that it will be necessary to cut down from the grinding surface, as well as to cut away all the softened tooth-structure that was in contact. The cavities are filled, the shapes of the teeth restored, and this time many years go by, and still there is no sign of a recurrence of decay.

How shall we account for the failures, as well as for the final success?

The first and second time the fillings were so inserted that the teeth still remained in contact, and having failed to change the conditions which first induced decay, we might have expected its recurrence in due time. The last time they were so large that their margins were exposed, except at the cervical wall, and the teeth could not rest in contact.

Let us take a hint from this. In the first place, if these cavities had been sufficiently enlarged to allow the margins of the fillings to become just free on the buccal and lingual side, and along the grinding surface border, and the gold had been rounded out instead of being filed flat, the teeth would have been comparatively safe.

Here let me say that to expose the edges of the fillings the cavities need not be so very much enlarged, if the gold is well rounded out. In some few cases where it is desirable to keep the gold out of sight, the contour may be even slightly exaggerated, as in that way the margins of the fillings will be free and safe, without extending so far out towards the buccal surface.

If the small cavities are enlarged in this way there is also greater certainty of securing perfect enamel margins, for the influence of decay on proximate surfaces often spreads farther from the cavity proper than may seem at first sight.

I think it may be accepted as a safe rule that the smaller the fillings on proximate surfaces the greater the danger of early failure, and the larger they are the less danger of a recurrence of decay.

A pin-head filling, placed on the proximate surface of one of my bicuspid by Dr. Varney, failed in two years. Large contour fillings on the proximate surfaces of the molars, and of one bicuspid, made by him at the same time, have now stood eight or nine years with no sign of failure. I know of no fillings that can be, in the very nature of the case, more secure than those very large ones that extend up under the gum, and well out upon the lingual and buccal surfaces of the teeth. The cervical margin is covered and protected by

the gum, and the lingual and buccal borders are so exposed to the friction of food and the washing action of fluids as to be kept clean almost without the use of the brush.

If this reasoning is correct, it follows that the more frail the teeth the larger the fillings should be made, and, on the other hand, the better their structure the less danger in leaving the fillings small.

It is generally said that some teeth are so frail that they must be permanently separated. It is my firm conviction that such teeth are the ones that need restoration most; even restoration may not save them, but it will preserve them longer than any other method with which I am familiar.

It is so easy, however, to be misunderstood that I must here say, that even if the perfect restoration of very frail teeth be absolutely the best method, yet I am not willing to advocate its too general adoption.

In the hands of a few accomplished operators, and for those patients who are able to seek the best service, and are willing to expect final failures, such operations, in my judgment, are the best that modern Dentistry has to give. But in the hands of most operators, and for most patients, I think that perhaps better results with such teeth may be expected from permanent separations, even though they be attended by many of the evils I have described. If restorations with gold cannot be well performed they had better not be attempted at all. In such cases perhaps restorations with amalgam may have advantages sufficient to overcome its defects as a filling material.

In most cases I should prepare my cavities in accordance with the following general rules. Teeth of good structure, in a healthy mouth, having small cavities, may be filled without cutting till the margins are free. Teeth of medium quality should be cut till the margins of the cavity are just free on the buccal and lingual sides, and if not cut through from the grinding surfaces, should yet be cut so as to allow the gold to come in sight along the proximo-grinding surface borders, after the teeth have closed. Then the only danger exists at the cervical margin. In very frail teeth even small cavities may not be safe until cut up to, and sometimes even under, the gum.

During the development of the teeth the anterior surfaces of the first molars, when decayed, should be filled in accordance with these general rules. This should be done after the loss of the temporary molars, and before the bicuspid are developed and in the way. Such operations are generally not easily performed, owing to the age of the patient, but it

may often be best to insist upon them while the surfaces of the teeth are so exposed. In the nature of the case there can never again be so favorable a time for facing these surfaces with gold, making them thereby safe against their eventual neighbours, the bicuspid. By the time the proximate surfaces between the bicuspid and between the molars need attention, the patient will be old enough, and the mouth sufficiently enlarged, to render the performance of such operations comparatively easy.

By following this general plan up to the time of adult life the teeth will be kept in position, and a perfect development of the jaws insured. The gums will be secure and comfortable, and the teeth as useful as in the perfect denture before described.

It still remains for me to notice a method of filling large cavities in teeth that stand close together at the gum. It is applicable more particularly to teeth that are badly decayed and broken down, but which yet contain living pulps.

In such teeth it is often difficult to obtain sufficient anchorage for contour fillings, and sometimes even such fillings would not be advisable if they could be made. I go, then, to the other extreme, and leave a permanent separation at the grinding surface. I first wedge the teeth a little way apart, and cut the cavity up even with the edge of the gum, or a little under it if necessary. I cut away the frail parts of the tooth, and round over the sharp angles at the grinding surface. I then so shape the fillings that they shall stand firmly in contact at or near the gum when the teeth have closed, so that nothing can pass through against the gum. I extend the fillings out to, and sometimes over the edges of the enamel, and so shape them as to protect the festoons of the gum on the lingual and buccal sides. After shaping them so as to give a firm point of contact near the gum, I slant them off quickly to the grinding surface, sometimes giving them the graceful curve before described. Such fillings keep the teeth in position, protect the cut surfaces, and shield the gum. They also present an inclined plane off which the food slides, so that they escape the strain of mastication.

Of course there is a loss of masticating surface, but there is a compensating gain in security. In fact, it is doubtful if any fillings on the proximate surfaces can be more secure than those put in in this manner. Smaller cavities can also often be treated to advantage in the same manner. Such operations are certainly more easily performed than those of full contour. Unfortunately, they can be made only on the surfaces of teeth that stand in contact at the gum.

With teeth that stand a little apart at the gum, I make a

compromise between these fillings and those of full contour, building the point of contact towards the grinding surface, in proportion as they stand apart at the gum.

Whenever full contour fillings are made, they should be so shaped as to touch firmly at the grinding surface. No compromise whatever can be allowed here. If even a slight space is left between them at this point, food will force through and lodge against the gum, and cause all the annoyance that can be expected from the worst kind of permanent separations. In view of this I think it unnecessary, and sometimes even unwise, to fully restore teeth that, from the loss of a neighbour or a change in the occlusion, must eventually move slightly apart. I think it better to anticipate such inevitable change of position, and make at once a free self-cleansing space down to the gum. Such an open space is less annoying than one wide at the gum but narrow at the grinding ends of the teeth.

I am led to think that some operators, who claim to have had unfavorable results with contour fillings, have not prepared their cavities so as to get free margins, and have not always taken nature as a guide and carried their fillings out round and full, and so shaped as to touch firmly at the grinding surface, or at any point between it and the gum. To a certain extent it is unfair to admit the testimony of such operators against contour fillings.

The system of restoration is one that must be practised thoroughly, if it is attempted at all.

I suppose it is unnecessary to speak in condemnation of proximate fillings filed flat, with no attempt at securing a self-cleansing space, or a perfect contour. Such aimless operations show either carelessness or inability on the part of the operator. They are worthy to be classed among the early efforts of the Dental profession.

It may be thought that I take strong ground in favour of contour fillings. As a general rule of practice to be applied in most cases, I certainly do. I am forced to this position by my own observation and experience.

(To be continued.)

TEETHING AS A CAUSE OF CHOLERA INFANTUM.

TEETHING may be considered as a concomitant cause of cholera infantum, as it is during dentition that it occurs; undoubtedly the one is a great aggravation to the other. To what extent, if at all, dentition may be a cause of this disease, authors seem to take little interest, and appear to think that

at this age there is such great functional activity and rapid development of the intestinal follicles, and a peculiar liability to the disease, as would be a sufficient cause rather than dentition. It has been, in theory, to me, one of the chief causes of the disease. In teething we have, as one of the first symptoms, an excitement of the buccal and salivary glands of the mouth, stimulating to a constant overflow of their secretions, which, undoubtedly, are somewhat modified, in their being more acid in their constituency from the alkaline qualities being wholly taken up in supplying the demands of the system in advancing the developing of the teeth. This evinces the truth that, in the diarrhœa from teething, the alkaline treatment is the most effective, and also suggests that mothers should give their children aqua calcis when they observe a superabundance of saliva running out of the child's mouth, which I believe would help supply the demands of the system, and avert many attacks of this disease.—(*Extract from paper by Wm. S. Stewart, M.D., in Medical and Surgical Reporter*).—*Cosmos*.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, MAY 5TH, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

Messrs. Edward Keen, of Cambridge, and J. R. Goepel, of Liverpool, were elected Members, and Mr. Waller, of Cairo, and Messrs. Thos. Clements and Chas. Jas. Noble, of London, were proposed for election.

Mr. COLEMAN related an interesting case of impacted fracture of a tooth. A young gentleman, now seventeen years of age, had a fall at Malvern five years ago, chipping his right upper central incisor, but without exposing the pulp. The tooth gave him no inconvenience till a few months ago, when he began to suffer some pain, and applied to a Dentist in consequence. This gentleman drilled an opening through the posterior wall of the tooth, cleared out the pulp cavity, introduced some cotton wool soaked in an antiseptic solution, and closed the aperture with gutta percha. As this did not afford much relief the patient applied to Mr.

Woodhouse, who counselled patience, but after bearing the pain for some time he called upon Mr. Woodhouse again, and as he was out of town came to Mr. Coleman. By this time there was clear evidence of severe periostitis and alveolar abscess; there seemed to be no longer any hope of being able to save the tooth, so, with the patient's ready consent, Mr. Coleman proceeded to extract it. But on applying the forceps the crown alone came away; at first he thought that the rest of the tooth might have been absorbed, but on looking into the alveolus the top of the fang could be seen, and it was at once extracted. It was then evident that it had been a case of impacted fracture, the crown and the fang having been so dovetailed together that, notwithstanding the repeated examinations, the drilling, &c., the real nature of the injury had never been discovered. It seemed remarkable, considering the long period which had elapsed since the accident, that no attempt at repair had taken place; probably the pulp had been too much injured at the time of the fracture, though not sufficiently so as at once to destroy its vitality. But for this he might have been able to exhibit a companion to the unique specimen of union of a fractured tooth which was then in the possession of the President.

Mr. MOON said he also had a case to bring forward which showed how satisfactorily teeth might behave after being subjected to very considerable violence. On April 25th, as he was leaving the hospital, he was asked to see a man who had just been brought in. He was a workman at Messrs. Broadwood's piano factory; whilst helping to bend a plank some of the men let go, and the wood springing up struck him a violent blow under the chin. When seen by Mr. Moon the state of things appeared to be as follows:—The right upper canine was driven inwards, so that its point lay inside the lower, the right lateral incisor appeared to be broken off level with the gum, the right central was very loose, and the left central apparently fractured obliquely across the crown. The alveolar plate was driven outwards, and the gums were bleeding and much swollen, rendering a thorough examination very painful and difficult. Being pressed for time Mr. Moon left the treatment of the case to the house-surgeon, Mr. Lawrence Read, and on seeing the patient a week later was agreeably surprised to find that all four teeth were *in situ*. As this satisfactory result was entirely due to Mr. Read's judicious treatment he would leave him to relate the further progress of the case.

Mr. READ said it would be evident from Mr. Moon's account that the teeth were not really broken off, but had been driven up almost through the floor of the nares. As

to the treatment, he first forced out the canine into its proper position, and then with fine forceps carefully drew down the incisors. The lateral incisor was so loose that he took it out for examination, but finding it perfect immediately replaced it. He then secured the teeth in position by tying them with silk to a platinum wire extending from the first molar on one side to the second bicuspid on the other. The case has progressed very favorably; the swelling gradually subsided and the teeth became firm. But he felt very doubtful as to the more remote consequences of the injury; the connections of the pulp at the apex of the fang must have been destroyed, and it was very uncertain whether these would be re-established. He thought it more probable that death of the pulp would occur, and that it would be necessary to open the pulp chambers and clear out the contents. Fortunately, the patient was young and very healthy.

The patient was then introduced and examined.

Mr. COLEMAN said that although the result in this instance appeared satisfactory, he had a strong objection to the use of ligatures in such cases. If in an ordinary case of replantation the tooth was examined about twenty-four hours after the operation, it would be found to be loose and raised above the level of its neighbours. This was due to an effusion of lymph which had taken place in the socket, and this effusion was necessary for the success of the operation, for from it was formed the tissue of union. But a tight ligature prevented this, and the more efficient the ligature the more injurious it was; he should never use one unless there was fracture of the alveolus.

Mr. HUTCHINSON asked whether Mr. Coleman approved of the use of plates in such cases? Mr. Coleman answered that he had found plates to raise the bite useful in some cases, but that in most cases the feeling of the patient was sufficient to protect the tooth from injury.

Mr. Hutchinson also had long thought that ligatures were dangerous, and had refrained from using them whenever it could possibly be avoided. After replacing the teeth he generally fitted a plate of Stent's composition capping all the teeth. By making the patient bite upon this and then adding fresh material little by little over the loose teeth, these were gradually driven home in their sockets. He left this splint in the mouth for about twenty-four hours and then replaced it by one of vulcanite, capping the back teeth only, and only just thick enough to protect the front teeth from pressure when the jaws were closed. The patient wore this for two or three weeks according to circumstances,

and the results of this mode of treatment had in his hands been exceedingly satisfactory.

Mr. MOON said that in this case the jaw was so much damaged that he felt sure it would have been impossible to retain the teeth in position without the use of ligatures.

Mr. HEPBURN showed, for Mr. J. F. Corbett, of Cork, the permanent lower central incisors of a girl eight years of age; they were remarkable for their very small size. Mr. Corbett had extracted them and was bringing the laterals together; these latter were well developed, and all the other teeth were normal.

Mr. KIRBY, of Bedford, showed several contrivances which he had found useful in practice, including a small tongue-holder with a ring attached to receive the mouth-piece of the saliva injector; a saliva pump made on Sprin-gel's principle, *i.e.* similar to Mr. Claud Rogers', but neater in appearance. It was surmounted by a glass globe holding a pint of water, and being attached to the spittoon did not occupy any extra room; with this and a pad in the cheek he could work for more than an hour without any trouble from moisture. He found that the best material for making pads was "mull muslin;" he kept this in bandage-like strips; a piece cut off, folded and placed under the cheek would arrest the parotid secretion for a long time; he used it also for rolling round spiral springs.

Mr. KIRBY showed also a shield made on a plan suggested by Dr. Orphoot; it was kept in position by a weight which hung under the chin and could be turned to right or left as required. A new oblique point which he had designed for use with the pneumatic mallet would he hoped supply a great desideratum; it was so small that it could be introduced into any cavity, and gave a forcible blow from behind forwards. It could be used also with the finger lever mallet, which he preferred to the pneumatic instrument.

Mr. OAKLEY COLES, at the request of Mr. Harris, of Finsbury Place, exhibited a new form of spring, the novelty of which was that it consisted of a single spring with only three spirals in the centre, and the swivel was novel in its arrangements, because the eye was counter-sunk and the pin was made flush with the brim of the eye, and there was an arrangement by which the length of the stem with its attachment to the plates could be adjusted. Mr. Harris claimed for the invention that it did not become clogged with food, that it lay closely to the denture, and was not liable to injury; also that the spring was so soft that it could be adapted to any particular form or curve.

The spring invented and patented by Mr. A. E. Harris is a novel and simple application of gold wire, with a double coil in the centre.

A very fine tube is passed on to each end of the spring, and retained by slightly enlarging the end.

The stem of the swivel is tubular, and receives the small tube, which is loose upon the end of the spring. Thus the spring rotates upon the swivel. The eye of the swivel is counter-sunk, and the head of the pin is conical, and when *in situ* is flush with the face of the swivel.

The pin, with the swivel attached, is soldered to a fluted bar. This slides into the carrier, which is fixed to the denture. By this means it is claimed that the Dentist is enabled to place the swivels in any required position, either moving them forwards or backwards, and retaining them as desired.

Mr. KIRBY thought that the ingenuity which was spent on these contrivances was rather wasted, since springs were now so seldom used. During the last four years he had only fitted springs in one case, and then solely because the patient desired it. If extra stability was required he preferred to have the lower molars cast in solid metal, and in the case of the upper denture two or three ridges cut on the sides of the palate, so as to press into the soft palate, would give additional firmness.

Mr. DAVID HEPBURN then read a paper on "The effects of Tobacco-Smoking on the Teeth." He had been led to give some attention to the subject by the frequently repeated question from patients, "Does smoking injure my teeth?" His own observations had not been sufficiently numerous to be of very much value, and he would therefore confine his remarks within brief limits, in the hope that they might elicit the experience of others on this by no means unimportant subject.

In order to judge of the probable effects of smoking on the teeth it would be necessary first to consider of what this "smoke" consisted. On analysis it was found to be made up of watery vapour, ammonia, carbonic acid, free carbon, and lastly a variable amount of a volatile oil, which could be again resolved into an alkaloid, nicotine, and a dark resinous substance possessing a peculiarly bitter taste.

Nicotine was the most potent of these constituents. When pure it was a colourless volatile liquid with a characteristic odour, said to be "pleasant and ethereal," and acrid taste; it was soluble to some extent in water, and more readily in alcohol and ether. It was a deadly poison; two cases were on record in which the administration of a small quantity had caused death within five minutes.

Smoking might affect the teeth either directly by the contact of the foregoing substances or indirectly, when indulged in to excess, by inducing chronic dyspepsia and lowering the general tone of the system. The latter was, however, too wide a subject for him to enter upon. So far as his own observations went he believed that the direct results of smoking on the teeth were decidedly beneficial. The alkalinity of the smoke, due to the ammonia, would neutralise any acid secretions which might be present in the mouth. Nicotine had been found to possess decided antiseptic properties, it would therefore tend to arrest any putrefactive changes which might be going on in carious cavities. Carbon was also known to have strong antiseptic properties; he thought, therefore, that its action on the teeth could not be other than beneficial, especially as its deposit took place exactly in those positions in which caries is most likely to arise, and on those surfaces of the teeth which escape the ordinary cleaning action of the brush. On the enamel it formed only a thin coating, which could be readily removed by scaling instruments, but wherever the enamel was absent or the smallest crack in it existed the dentine became permanently stained by the deposit of oil and carbon.

That smoking would allay, to some extent, the pain of toothache was well known. This was partly due to the general narcotising effects of the tobacco and partly to the direct action of the nicotine on the exposed nerve. And he was inclined to attribute the comparative immunity of sailors from toothache to their almost universal habit of chewing tobacco. In the case of one or two confirmed smokers who had come under his notice, he had been struck by the apparent tendency to the gradual necrosis of carious teeth, the various stages of death of the pulp and death of the periosteum having taken place without the least pain or discomfort to the patient. This state of things might be due to other causes, but he thought that in these cases the constant presence of nicotine in the mouth might account for it.

Having thus briefly stated his experience he hoped that many of those present would do the same, and that he should derive some additional information from the discussion.

The PRESIDENT, after thanking Mr. Hepburn for his paper, said that he believed it to be a fact that smokers suffered less from toothache than non-smokers, and if practised in moderation he did not think that any harm resulted; but when indulged in to excess, it was apt to cause chronic irritation of the mucous membrane of the mouth and so might injure the teeth indirectly.

Mr. OAKLEY COLES thought that the rapid changes of

temperature which were incidental to smoking might be injurious to the teeth, especially in cases where the enamel was thin and delicate. In smoking out of doors, the teeth were exposed to alternate blasts of hot and cold air, and he thought that the peculiar cracked state of the enamel which he had noticed on the teeth of several confirmed smokers, might be due to this cause; he had noticed it also on the teeth of cooks.

Mr. UNDERWOOD said he had heard it stated that smoking did not raise the temperature of the mouth.

Mr. HARDING said he thought the general opinion was that smoking was not injurious to the teeth directly, but that it might be so indirectly by lowering the tone of the system. He had noticed great differences in the amount of tartar deposited in the mouth of regular smokers; did Mr. Hepburn think that this had any relation to the kind of tobacco smoked?

Mr. ARTHUR UNDERWOOD remarked that though the ammonia in the tobacco smoke neutralised the buccal secretions for the time, it also acted as a stimulant to the salivary and mucous glands, increasing the amount of their secretions; on the whole, therefore, it was very doubtful whether the alkalinity spoken of by Mr. Hepburn was really beneficial. He thought also that smoking increased the liability to recession of the gums.

Mr. COLEMAN said he had formerly held the opinion that smoking was injurious to the teeth, but longer experience had compelled him to change his mind. He thought that smokers were less liable to caries, and had no doubt that they were less liable to pain. Mr. Hepburn had ascribed these effects to the presence of nicotine, but he (Mr. Coleman) had always understood that, although in chewing tobacco nicotine would be present in the mouth in some quantity, the amount inhaled with the smoke was almost inappreciable.

Mr. KIRBY asked Mr. Hepburn whether any of the phenile series (creosote, carbolic acid, &c.) had been detected in tobacco smoke? these substances were so constantly produced by the destructive distillation of vegetable matter, that he thought it very probable that some of them would be found in tobacco smoke, and might give it its antiseptic and preservative character.

Mr. MOON asked whether Mr. Coles had noticed that the cracked enamel he had spoken of was by no means confined to the teeth of smokers. One of the most marked cases he had seen was that of a tailor who did not smoke; he thought it was caused by his habit of biting his thread.

Mr. CHAS. TOMES asked Mr. Coles whether he had noticed that this cracking of the enamel might exist to a very great extent without apparently at all increasing the liability to caries?

Mr. OAKLEY COLES said he had noticed cracked enamel on the teeth of persons who did not smoke; but he thought it was more common in those who did; but the explanation might be that the smoking made the cracks more visible and less likely to be overlooked. He knew that the cracks did not necessarily go on to caries, though it was likely to do so in delicate teeth with their friable enamel and soft dentine.

Mr. HEPBURN in reply said that he had made no analysis of tobacco smoke himself, and had not seen creosote mentioned in any he had met with. He had seen cracked enamel on the teeth of all sorts of individuals, smoking only made them more visible; he thought, however, that the changes of temperature in smoking might be injurious to delicate enamel. According to his experience smoking did not increase the deposit of tartar; smokers were not liable to soft tartar, generally it was small in quantity and hard.

After the usual vote of thanks, the President announced that at the next meeting Mr. Arthur Underwood would read a paper on "The Functions of the Nerve of Taste," and the meeting terminated.

LECTURERS ON DENTISTRY IN ANDERSON'S COLLEGE, GLASGOW.

AT a meeting of the Trustees of Anderson's University, held on April 28th, the report by the Medical Faculty regarding the appointment of Lecturers on Dentistry in connection with the Medical School was considered. The report showed that, of the thirteen courses of instruction which constitute the Dental curriculum of the Faculty of Physicians and Surgeons in Glasgow, nine are already provided for in Anderson's College, and another, viz. Clinical Surgery, can be obtained in either of the infirmaries. The report, therefore, suggested that there should be appointed in the usual way three lecturers on the subjects special to Dentistry which are not as yet provided for, viz. Dental Anatomy and Physiology, Dental Surgery, Dental Mechanics and Metallurgy. Ultimately it was decided that for the present the whole matter be remitted to the managers with full powers as regards the ensuing summer session to fill up these lectureships in a temporary manner.—*British Medical Journal*.

Miscellanea.

WINDERLING AND SONS' DENTAL INJECTOR.

MESSRS. WINDERLING AND SONS, of Milan, have invented and brought to very great perfection a most ingenious apparatus for manufacturing celluloid cases. It is equally applicable for packing vulcanite. It is of such a thoroughly practicable nature that if celluloid will only bear the test of time, and it has been in use over six years without any deterioration, we are certainly on the eve of a revolution in mechanical Dentistry, with simplicity, economy, and efficiency for its watchwords, as these gentlemen have not only overcome *every* difficulty of manipulative detail, but have also been able to introduce reforms long felt to be necessary, but hitherto looked upon as unattainable. We will in our next issue endeavour to describe, with the aid of engravings, the apparatus and manipulation, but at the same time feel certain that, without *seeing* it and its mode of working, it will be difficult, if not utterly impossible, to form any adequate conception of its manifold advantages. We may, however, mention some of, perhaps, its most important features, foremost amongst them being its utter absence from danger, there being *no steam pressure* required. The flasking of the case being accomplished in one operation and *never opened*, there is no possibility of the bite rising or the case in any way altering, and the fact that the flask is never heated above boiling-water point, although the celluloid is made nearly double that temperature before injecting, leaves the plaster hard and firm, so that the use of metal models becomes no longer necessary. Bands, clips, or strengthenings, either on the surface or in the body of the celluloid, are readily adjusted.

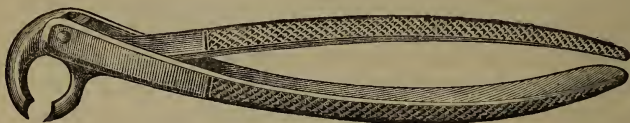
The facility with which repairs and additions can be accomplished is also very great, as *actual union* takes place between the old and new materials. The introduction of the celluloid, once the flask is ready, takes but five to ten minutes, after which it has but to be cooled to be ready to finish up, and not the least advantageous is the cleanliness of working, which is unparalleled. These, however, are but a few of the results to be obtained through the unwearied exertions and unfailing ingenuity of the inventors.

We understand that Messrs. C. Ash & Sons will have the

agency in England, and that they will very shortly be in a position to satisfy all inquiries on the subject.

MESSRS. ASH AND SONS

request the annexed form of forceps to be brought before the notice of the profession, not, indeed, as a new shape, but



one the usefulness of which, in cases where it is impossible to open the mouth wide, has been overlooked.

THE GAS-REGULATING PRESSURE GAUGE

recently introduced by the Dental Manufacturing Company, we are requested to say, needs but a very little instruction, which they are always ready to give, to enable the manipulator to set the vulcaniser to the utmost nicety, and we have the greatest pleasure in endorsing all we were able to say previously after another month's experience, during which with the minimum of watching there has been undoubtedly the maximum of success in the uniform texture of the rubbers baked with the aid of this most excellent instrument, and a total absence of risk from neglecting to constantly "watch the thermometer."

EXHIBITION OF CUTLERY.

At the recent Exhibition of all Classes of Cutlery held at the Cutlers' Hall, Messrs. Ash & Sons received the highest award—Silver Medal and Certificate of Merit—for Dental instruments.

APPOINTMENTS.

GEO. CUNNINGHAM, B.C.B.Sc. (Paris), D.M.D (Harvard), late of Dublin, to be Honorary Surgeon-Dentist to the North Cambridgeshire Cottage Hospital, Wisbeach, vice H. J. Wigmore, Esq., resigned.

At the last monthly meeting of the Committee of the Newcastle-on-Tyne Dispensary, Mr. G. F. Tate, Dentist, was appointed Honorary Dental Surgeon to the above institution, vice Mr. James Boe, deceased.

At a meeting of the Board of Governors on the 17th ult., Mr. H. C. H. Longhurst, L.D.S.R.C.S., of 4, Welford Place, Leicester, was unanimously elected Dental Surgeon to the Leicester Provident Dispensary.

PRESENT NEEDS OF THE DENTAL PROFESSION.

THROUGH the operation of the Dental Act the Dental profession have become proprietors of an excellent old, yet ill-arranged, property.

The Dental Reform Committee may be called the parties empowered to negotiate. It is admitted that owing to their energy, tact, and skill, the terms were finally brought to a successful issue. But it would appear another stage has been reached, as from a report of a meeting of the profession (?) (*i. e.* I presume of those favoured few who received intimation of such a meeting*) held at London, in Willis's Rooms, it seems the Reform Committee have now *resolved themselves* into an association to put this new purchase into order. Such an association may prove very excellent provided it is duly invested with powers from the profession. I therefore inquire does the profession agree to this innovation?

Every Dentist is of course entitled to a voice and notice of meetings regarding this matter before any definite or binding regulations or bye-laws are made. For if the Association is to carry any weight or attain to any good result, it clearly should be supported by every member of the profession, with the conclusion that the majority shall rule, the minority shall

* The meeting was duly advertised in this Journal, and, we believe, also in 'The Times' and other papers.—ED. B. J. D. S.

acquiesce, otherwise, the labours of the Association and its executive council must become of little worth. As a case in point to show how this may be, I cannot do better than refer your readers to the narrowness of two rules suggested by a correspondent of the 'British Journal of Dental Science,' signed "Drar. G. Kcalb," regarding the eligibility for membership of this new British Dental Association.

The rules suggested by him if adopted by the Association would in effect miss the mark at which he aims, starving and hindering rather than fostering the Association.

It would be more to its purpose if a general meeting of British Dentists were called to meet at some central point, say Liverpool or Carlisle, then let the majority of the profession declare or pronounce what actions shall be considered corrupt or undignified. Only those to be refused membership who decline to give up such corrupt and undignified modes of their practice; a meeting like that would have far greater influence and force than the crotchets of two or three score of Dentists met in London.

It will be noticed that Drar. G. Kcalb takes special exception to advertisements and show cases. This objection might simply be a crotchet of his own, or mayhap a few equally narrow-minded. Is it the feeling of the majority of the Dentists? I trow not, for it occurs to me that 97 per cent. of the very many good Dentists in the profession possess show cases, as also advertising in some shape or another.

The matter of advertisements and show cases it doth thus appear is a very delicate point, requiring careful and impartial consideration in all its aspects, its bearings as betwixt the resident and the non-resident Dentist in a town, likewise its necessity or otherwise in the small country towns; remembering that the Dental Act hinders no Dentists, if so disposed, from advertising, also that an overwhelming majority of the Dentists composing the profession are *sine* diploma, therefore not bound against advertising or having show cases by any College bye-law. Next must be remembered the local customs of the public, that which is suitable in one district will not be suitable in another, the habits of London and the cities are not the habits of the towns and provincial districts, instance the west end of London and a Lancashire town of colliers or cotton operatives. So with all due deference to Drar. G. Kcalb, whatever his standing, is it not a bit unseemly in him, besides of little purpose, for him to sneeringly speak about low-class advertising Dentists and respectable non-advertising Dentists? I defend neither modes; I know respectable and able men holding both views;

and in the eyes of the law all are equally respectable, even the druggists if they can make good their position on the register. Hence I would suggest to the Association rather than occupy your time in building stumble blocks by adopting such narrow ideas as those offered by Kcalb, your time would be much more profitably spent in making a scrutiny of the 1837 druggists reported as having registered themselves as Dentists. There are in this town where I am about a score of druggists and a few barbers who extract teeth, but can do no more, and I believe some have registered themselves, so that they may stick "Registered Dentist" over their shop doors as a catchpenny, and it rests with the profession, through the new Association or otherwise, to say whether or not the druggists will be allowed to go unchallenged. One good test of their actual practice as Dentists would be to learn from the various houses and depôts for Dental material how many of the druggists received Dental material from them before the passing of the Act.

The druggists are very jealous of their professional interests, allowing no one to dispense without the requisite qualifications. We Dentists must be as jealous of our profession, to take care that it is not inundated by theirs. While I frankly admit that there are some druggists in Dental practice turning out very creditable workmanship, yet it scarcely can be imagined that there are 1837 so engaged.

The Dental Association would be of some use to the profession if they would now decide and intimate to each Dentist what they think should be done, and cause members of the profession in their various towns to carefully examine the list of druggists entered, and return a report to the Association. This would give the Association life and practical utility, and break down exclusiveness.

The pen of Mr. Dennant is in much better harmony with the spirit of the times than that above referred to. Mr. Dennant throws out some suggestions well worthy of the serious thought of every member of the profession. Each Dentist, worthy of the name, must have a mind of his own, views of his own, and a method of practice peculiar to himself.

As Dental history has arrived at a critical point, when associations are being developed which may prove the root of good or evil according as wise or foolish counsels shall prevail, it would appear that the present is the only time to give expression to our views and individualities, that we may discover how far our opinions correspond; consequently, I quite fall in with Mr. Dennant's view, that now is the right

time to give expression to our various peculiarities. There be some among us who still fret and fume at the Dental Act, though it be a deed accomplished; there be more who wish it a successful operation with a liberal interpretation, who, with larger mindedness, can foresee the safety and higher status of the profession, both present and future; there be others, not a few, who do not care a straw for Dental polity, but would crawl on their way without a word if not interfered with, and there be others who wear the druggist's cloak. Now neither as a profession nor in the shape of an association, must it be forgotten that the body is made up of these several classes, and that narrow exclusiveness, broad generosity, incapacity and great capacity, bad workmanship and excellent workmanship, advertising and non-advertising, *sine* diploma and diploma, also tooth-extracting druggists—in short, good and bad have by the operation of the Dental Act been placed around one board, under the same cover, with equal privileges. Such being the circumstances it serves no good purpose to fret and grumble in our individual shells. Rather let us each show our peculiar virtues, and as units of the profession, consider what we can in unity combine to do; and decide what will be most conducive to the healthy development of our Dental body.

The energetic minds must and will lead the van, either in progression or retrogression. Can we as individuals follow the lead, and support and homologate their doings or the transactions of the newly-formed Association, in the way of healthy progress, or shall we be obstructives and help the jealous eye, the contemptuous sneer, and the exclusives to rule the camp? The former course must increase the dignity, the latter must degrade our profession as hitherto.

Parliament sets us a good example of forbearance. We, even in company with a drove of druggists, are gathered into one fold. The sun of the law shines alike on the good and the evil, rich and poor, skilled and unskilled; this seems great generosity, more than was needed, but being so, it availeth us little that we should keep sneering at each other as high class and low class, or quacks and charlatans. It were better for us to agree to sink hard words and uncourteous epithets, so that we could harmoniously unite in supporting any association which will concientiously labour to care for and foster all the true interests and benevolent aspirations of the Dental brotherhood.

If, in the Dental profession, the names quack and charlatan mean a Dentist *sine* diploma, then, according to the report of the General Medical Council, we must pronounce the

whole profession, or at least eight ninths (2636 including the 91 L.D.S.I.) as quacks and charlatans, and that eight ninths is exclusive of the 1837 druggists registered. Thus, the remaining ninth part, 314 holding diploma, by such reasoning would be the legitimate profession, and I would ask them what can they do better, or perhaps even as well as the majority of the 2636 reputed quacks; verily, I take it that these select 314, notwithstanding their probably well-earned honours, could do little in opposition to the others; also that many of them would be driven to their wits' end to produce a creditable or well-adapted denture, if placed in a workroom without assistance as to the modes of procedure; therefore, I think, we as a profession should now learn to speak and think of each other, if not in friendship, at least, with courtesy.

There is another important instrument in the Dental profession which needs attention, reconstruction, and classification. The Reform Committee have not hinted at it, neither has it been referred to in the Dental Act, nor, so far as I can trace, is it noticed by the new association or similar bodies of the profession; yet it is all important, without its aid no Dentist, high or low, can do anything. It is the Dentist's fees or charges. On that point there is great room and much need for reformation and harmonious unity. The difference in charges has done more harm to the profession than all the show-cases, advertisements, and puffs combined, and the public are justly dubious as to the Dentist. Now if materials were classified and a standard scale of fees arranged and agreed upon, it would be better for the profession and a protection and encouragement to the public; raising the Dentist into more honorable repute than hitherto. Lawyers are accredited with some spark of conscience, why should a Dentist have less? and if lawyers and other professions can have a tabulated scale of fees with a sufficient margin for their conscience, why should the members of the Dental profession not be able to arrange a scale for the guidance of the individual members?

Among the first hobbies of the Dental Association which I would urge, is to arrange a professional scale of charges; this would lead to upright dealing with patients rich or poor, and by good workmanship or advice, we, as a profession, would thus gain public confidence; and having extended our benevolence to the public in this matter, be afterwards able to encourage the benevolence of scholarships urged by Mr. Dennant; therefore, I would say let the scholarship for the public be the first move.

FLETCHER'S INSTANTANEOUS WATER HEATER.

So many inquiries respecting this have been addressed to me that I cannot possibly reply to them singly.

The maker of the coil now states that he had so much difficulty in making the coil tight that he declines to make any more.

I am endeavouring to get the coils made of solid drawn copper tube, and if I succeed in doing so no time will be lost in supplying the whole apparatus ready for use.—THOS. FLETCHER.

JOSIAH BACON'S DEATH.

ON Sunday, April 13th, at about twelve o'clock, Josiah Bacon was found dead on the floor in his room at the Baldwin Hotel, San Francisco.

There was no blood on the floor or the clothes of the dead man, and when found the body was cold and rigid, having been dead probably three hours.

The agent of the deed and the cause was, at first, shrouded in mystery, but on the succeeding Wednesday the whole matter was revealed by the appearance of Dr. S. P. Chalfant, of that city, who walked into the central police station and surrendered himself, and acknowledged that he had killed Mr. Bacon, but claimed that it was accidental. Dr. Chalfant had been subjected to rigorous prosecution several different times, for alleged infringement of the Goodyear Dental Vulcanite Company's patent, in the use of rubber for artificial teeth.

Upon this subject Dr. Chalfant had called to see Mr. Bacon. The interview became very heated, when Dr. Chalfant drew his pistol, not to shoot, but to intimidate Mr. Bacon, the weapon accidentally was discharged, and Mr. Bacon was killed.

It may never be known whether this act was accidental or intentional, but in either case there are certain facts that cannot be overlooked.

Mr. Bacon had prosecuted and broken up Dr. Chalfant's business and virtually drove him from his field of practice twice before. Mr. Bacon said to Deputy Marshall McEwan, on the Friday before his death, when asked, "Do you ever push Dentists to the wall?" "Certainly we do when they

don't pay up. There is Chalfant, for instance, I found him in Wilmington, Del., using our patent without having paid the royalty. I commenced action against him, got out an injunction, obtained judgment, upon which an execution was issued, and broke him up. He then left town. When I went to St. Louis I found him engaged in the same business, and I broke him up again. I find him here doing the same thing, and he will have to pay or be broken up again."

These words indicate about Mr. Bacon's course with Dentists generally. They had to submit to his demands or suffer prosecution, and he was by no means a mild prosecutor.

The manner in which Dr. Chalfant had been followed up had doubtless brought him almost, if not quite, to desperation. And, if reports be correct, he was far from being alone in this respect. The affair was one much to be regretted, both in the occasion and the occurrence.—*Dental Register*.

THE DENTAL SCHOOL IN ANDERSON'S COLLEGE.

WE understand that in the new Dental school formed in connection with Anderson's College, the managers have made the following appointments:—Dental Anatomy and Physiology, J. Crooks Morison, L.D.S. Eng.; Dental Surgery, J. R. Brownlie, L.D.S. Eng.; Dental Mechanics, W. S. Woodburn, L.D.S. Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen passed the necessary examinations in April, and obtained the diploma in Dental Surgery conferred by the College:

Joseph Holland (Norwich), Andrew Wilson (Edinburgh), George Wilkie Watson (Glasgow), Edwin John Ladmore (Hereford), James Taylor (Dewsbury), William Bowman Macleod (Edinburgh), Malcolm MacGregor (New Scone), Charles Matthew (Glasgow).

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE next examination of candidates for the Dental diploma of the Royal College of Surgeons in Ireland will be held on the 9th of June next.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

THE TOMES AND TURNER TESTIMONIAL FUND.

To the Editor of the 'British Journal of Dental Science.'

SIR,—May I ask for space in your Journal to state that the next list of contributions to the "Tomes and Turner Testimonial Fund" will be corrected in accordance with the statements in the letters I have received from not only yourself, sir, but the following gentlemen also:—T. S. Carter (Leeds), Frederick Dalby (Wolverhampton), T. W. Hogue (Bournemouth), Thomas Mahonie (Sheffield), Frank Petty (Reading), J. Collins Tippet (Torquay), W. H. Waite (Liverpool), L. B. West (Broad Street, E.C.), and A. J. Woodhouse (Hanover Square, W.).

Contributors would very much oblige me by writing their names and initials very plainly; this would save them the annoyance of seeing their names mis-spelt, a result which some autographs make it impossible to avoid.

Yours, &c., ALFRED HILL,

23, Henrietta St., Cavendish Sq., W.;

Hon. Sec.

May 28th, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—There seems to be a great deal of unnecessary apprehension abroad with respect to the new Dental Bill, of its having opened the doors too wide and admitted a ragged regiment of recruits who are incompetent and unwelcome, in the shape of the tooth-drawing blacksmiths, umbrella-menders, and the pharmacists. Now, with regard to the first-class, they are certainly a very useful and ingenious class, and most assuredly can boast of antiquity much greater than our own; I am not sure some distinguished brethren now in practice have not risen from their ranks. The stretch of imagination that admitted the tinker or umbrella-maker need not be feared, as his opposition will not be felt until the time when the profession may be more itinerant than at present, and take their workshops with them. Now, the pharmaceutical chemist, at whose liberties the 'Lancet' seems especially aggrieved, is an educated addition; and surely our friends who feel themselves so injured would not have the liberties of our land so altered as to make it possible to pass retrospective instead of prospective laws. Again, it seems to be entirely forgotten by them that the Medical Acts of 1815 and 1858, and also the Pharmacy Act, had to stoop to the same accommodation, and perhaps some abuse. It is probable, too, that the smiths, the tinkers, and the druggists, that may be amongst us to-day, will bear a very favorable comparison with some of the herbalists, barber surgeons, and quack apothecaries, admitted in former times, in education, gentlemanly deportment, ingenuity, and inventive genius; but have the above professions suffered from these admissions? The answer is, "Look around." I, for one, fail to see the ground of complaint and jealousy, or to see the force of our friend's arguments. Dentistry is a progressive science, and by the law of natural selection will soon rid itself of the weak and incompetent. I have read with much delight the report of the meeting of the Dental profession, and especially the address of our patriarch, J. Tomes, Esq., F.R.S.

I am, &c.,

W. W. MILDREN.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I was much amused by the way "Malva" expresses his opinion of my letter in the March number. Firstly, he says "I cannot be in earnest in wishing to see the rules carried out." Allow me to inform him that I do not write without understanding the subject on which I speak. I am not forgetful nor ignorant of the fact that a great many of the oldest and most respectable members of our profession advertise (more's the pity).

"Malva" entirely overlooks the meaning of the latter part of my letter, namely, What interest would those who hold a diploma, or are non-advertising Dentists, have in joining an association which would admit Dentists whom they could not recognise in their own city, owing to the class of work they put out and the means they use in pushing their business?

Does "Malva" wish the members of the British Dental Association to be allowed to advertise and exhibit show-cases; if so, what is the meaning of Dental Reform?

I think by making it compulsory on Dentists when joining the British Dental Association that they should give up advertising, would be a great step towards effacing that which lowers our profession in the eyes of every educated man. What respect could the medical or any other learned body have for an association which would allow its members to advertise in the vile manner which a number of registered men do at the present time.

I have no difficulty in guessing that "Malva" is not a non-advertising Dentist.

Yours, &c.,

DRAREG KCALB.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your last issue your correspondents, Messrs. Dewes and Whatford, seem to overlook the fact that, in using inverted commas, it is the custom to append the author's name either at the beginning or the end of the quotation as well as the inverted commas. It is this leaving of the students of the Dental Hospital in the dark as to the source of the quotation that I imagine "Justice" very justly complains. Fancy the reader of a paper pausing, and saying to his hearers, "The following is in inverted commas;" what smiles it would provoke! But if he said that the "following is a quotation from Mr. So-and-so's work," his hearers could put it in inverted commas for themselves.

The remarks about "going to the nearest national school, &c.," come with very bad grace from a person who has erred himself, and calls to mind the old legal saying, viz.—"No case, blackguard the opposing lawyer."

Yours, &c.,

HERBERT B. STEVENSON.

Todmorden.

A WARNING TO DENTISTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Having the other day been rather gulled by an impostor, and also since met a few friends who have been annoyed in a similar manner, I thought a few words of warning might place my brother practitioners on their guard. The case is briefly stated as follows:

A man of about forty years of age, and dressed in the garb of a countryman, presents himself at the house of a Dentist. He gives either the name of Smith or Johnstone as a rule, and represents that he has been recommended by some chemist in the neighbourhood, whose name he will mention. He will tell you that he requires your assistance in the way of artificial teeth. You duly examine his mouth, tell him what you would advise being done, and make an appointment for the same. He then says, "Good day!" but no sooner has he reached the door than back he comes, opens a large black bag he has with him, and he says to you, "By the bye, sir! you would not like to have a few eggs, would you? some from my own fowls, which I have brought direct from the country," for which he asks the price of 2s. per dozen. The Dentist as a rule, buys a dozen or so of his eggs, but Mr. Smith never shows an appearance again.

Now, this is very annoying to any practitioner to have his time thus taken up. The most extraordinary point is that the eggs are excellent, which I can testify from my own personal experience. My advice to practitioners is, should this individual present himself, to secure a few dozen of his eggs, and after having safely locked them up in a drawer, inform the said gentleman that the amount shall be deducted from the fee. Trusting that this will be the means of securing Dentists against this nuisance, I am, &c.,

DETECTIVE.

P.S.—Should he again present himself at my house I should give him into custody, as I believe the eggs are a blind, and that he merely wants to steal any gold he may see about.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 13s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

Communications received from Messrs. Magor, Cartwright, O'Duffy, Harding, Newman (Liverpool), C. W. Spalding, M.D., Longhurst, Langmore, Alexander, "Drareg Kcalb," Fletcher, Balkwill, Templeton, Stevenson "Detective," Mildren.

BOOKS AND PAPERS RECEIVED.

- 'Le Progrès Dentaire.'
- 'Transactions of the American Dental Association.'
- 'Transactions of the Odontological Society of Great Britain.'
- 'Daily Courier.'
- 'Pharmaceutical Journal.'
- 'Medical Times and Gazette.'
- 'British Medical Journal.'
- 'Lancet.'
- 'Report of Liverpool Dental Hospital.'
- 'Le Semaine Française.'
- 'Giornale di Corrispondenza dei Dentisti.'
- 'Johnson's Dental Miscellany.'
- 'Monthly Review of Dental Surgery.'
- 'The Dental Cosmos.'

British Journal of Dental Science.

No. 277.

LONDON, JULY, 1879.

VOL. XXII.

Dental Surgery and Medicine.

A NEW DEPARTURE.

By CHARLES MATTHEW, Esq., L.D.S. Ed.

IN connection with the new departure, which is at present causing so much discussion, might I ask one of its advocates to explain to me, in the light of its theories, the following result. In May, 1872, while filling with gold a large distal cavity in an upper lateral incisor, I had the misfortune, after having plugged the cervical portion of the cavity, to drive a small pointed plugger through the thin covering of partially decomposed denture, which had been left as a protection to the nearly exposed pulp. This of course wounded the pulp, and for the time being prevented me proceeding with my filling. The treatment I adopted I find from my case-book to have been as follows:—"Left gold in cervical portion of the cavity, and filled the remainder with Guillvi's cement, previously washing well with creosote; cement very carefully laid over exposed pulp." I find also that the patient was seen next day, when I have no doubt the *unreliable* and *temporary* nature of the filling would be mentioned to her. Not, however, till October, 1874, nearly two years and a half afterwards, did my patient return, when it appears the following note was made. "Found plug of 25th May, 1872, completely wasted in the cement portion; *gold portion still holding, and no decay underneath*; cavity much decayed elsewhere and pulp dead." Then the note goes on to mention the treatment adopted, which does not at present concerns us. Now, I should like a new departurist to explain to me how it came that the only part of the cavity which did not decay was that which was protected by gold. I may mention that the teeth were not of strong structure, and that the mouth was kept in anything but a clean state, in fact everything was in the most favorable

condition for furthering the destructive influence of gold on dentos, according to the theories advanced.

I see in the April number of the 'Cosmos,' that both Dr. Flagg and Dr. Chure have short discussion articles connected with the subject of the new departure. One or two extracts from the more intelligible remarks of Dr. Chure, will place my difficulty sufficiently clearly before your readers, and perhaps I may in time have it removed. He says, "Gold is the most negative of our metallic fillings. Gold, then, being the most negative substance and the best conductor, makes the strongest battery. Gold then, united to dentos, in the presence of a weak acid, causes this acid to act upon the dentos from five to six times as much in a given time as it would if there was no gold present." Is it not strange, if this be so, that there was no decay underneath the gold in the filling we have been considering? Further on in the article, he says, "We have said that we find *by experiment* that all our metallic fillings have a similar effect, only in less degree. Our experiments prove that oxychloride of zinc (so called) prevents a dentos cube from being attacked by a weak acid. Now for the reason:—The dentos is negative to oxychloride of zinc, or oxychloride of zinc is positive to dentos, and so the 'oxychloride' itself is dissolved or loses in weight. The direction of the current of electricity is reversed." This (of course?) accounts for the destruction of the Guillvi's cement, but leaves as obscure as were the cause of the preservative effect of the gold on the dentine in our case, the treatment of which, in its results, I find so difficult to square with the new theories.

DENTAL CARIES.

A paper read before the Students' Society of the Dental Hospital of London, March 10th, 1879.

By H. DAVIS, Esq.

(Continued from p. 304.)

CARIES was very frequent amongst the ancient peoples of Europe; numerous examples are seen in the collection of Basque skulls of the Anthropological Society.

In France a bad state of the teeth exempts from military service. The statistics of the war department therefore give a good example of the relative prevalence of caries among

the young men of the different parts of France. From these and other data, Magitot has constructed a map of France, showing at a glance the districts most, and those least, affected by caries.

This map shows that drinks have but little influence; whereas Normandy is one of the districts most ravaged by caries, Bretagne is one of the least, yet cider is the common drink in both. Again, where wine is chiefly drunk, some districts present numerous examples of decay, whilst others are almost exempt. Other supposed local predisposing causes, of soil, situation, &c., are similarly seen to have little or no influence. On the other hand, this map compared with others showing the distribution of races, shows that certain races (the Celts) are those freest from, and certain others (the Cymri) those most subject to, Dental caries.

Constitution and diathesis play an important part in predisposing to caries or the reverse. That the principal exciting cause of caries is due to an acid medium, there cannot now be any doubt, but what the nature of that acid is, still remains unsettled.

Very interesting experiments have been made from time to time, with a view of determining this point, but without any positive results. It is probable, however, that caries is due, not to one acid in particular, but to several. Magitot who has made many experiments with the view of obtaining artificial caries, states, that with lactic acid he obtained positive results; the roots of the teeth becoming soft and gelatinous; the enamel friable, and the whole tooth brownish in colour. With butyric acid he obtained nearly similar results. Citric acid he found to be extremely marked in its action, and he states that this acid is more deleterious to the teeth than any other. Malic acid he found to be more powerful than cider. Acetic acid produced a very curious effect upon the teeth immersed in a solution of it; the roots became soft, flexible, and yellowish in colour, whilst the crowns remained intact.

Leber and Rottenstein, who repeated a number of Magitot's experiments, diminishing, however, the duration of the action, state that the results obtained by him are not due to the acids alone, but also to the decomposition of the organic substance of the teeth, and the low forms of animal and vegetable organisms produced by that process.

Coleman found that the fluid resulting from the addition of fragments of bread, and a little saliva to water in which teeth were placed, was very destructive.

That the buccal mucus should be an active agent in producing caries can be readily understood, it having a decidedly

acid reaction ; and, moreover, being a thick viscid secretion, is thus enabled to cling about the teeth, and, by means of its acid, dissolve the earthy salts, until a slight cavity is formed, in which particles of food and other matter will lodge. These then set up a process of fermentation, more acid being formed, and the decay rapidly spreads.

Various theories with regard to the exciting causes of caries have been advanced, the three principal of which are termed respectively, the vital, the chemical, and the chemico-vital.

The vital theory, which was put forward by the older writers, was based upon the supposition that caries was an inflammatory disease of the dentine ; but this is now so entirely disproved that it need not detain us ; but it may be well to mention one of the arguments that were adduced in favour of it. The vital theorists made use of the so-called "caries interna," which they supposed they had discovered, but that internal caries cannot exist is now certain, so that the argument falls to the ground.

The second theory, that caries is the product of a chemical action, has many and great arguments in favour of it. The upholders of this theory say that caries is a purely external affection, and never occurs in places that are remote from external influence. Experiment shows that enamel and dentine may be decalcified by means of vegetable and mineral acids, and also that the buccal mucus has a decidedly acid reaction. Teeth that have been reintroduced into the mouth on artificial dentures undergo a change almost exactly similar to caries.

Magitot considers the saliva to be an active agent in the production of caries when it becomes the vehicle of acid substances.

Wedl believes that the buccal mucus is the principal cause of caries, and he says that when there is an abundant secretion of it, as in children and young people, caries is very frequent, and has more or less of an acute character.

Tomes remarks that in cases where there is extensive caries the gums are often swollen and vascular, and coated with thick, sticky mucus, which can be drawn out from between the teeth in long strings.

That the arguments of the purely chemical theorists are good cannot be denied, but I think they are not conclusive, and therefore I prefer, for my own part, to accept the chemico-vital theory as the true explanation of caries. The chemico-vital theory asserts that the destructive changes in the teeth are effected by chemical agents, modified, however, and to a certain extent retarded, by vital action set up by

the conduction of irritation along the dentinal fibrils from the surface attached to the pulp.

The calcification of the fibrils mentioned by Tomes points to a vital action of the pulp in attempting to arrest the disease. Salter, who has examined numerous natural teeth that have been worn in the mouth as artificial, says that there are marked differences between the caries produced in them and that of living teeth. He tells us that (*a*) there is a want of limit to the change; (*b*) an absence of the calcified zone, and clear pencils of tubes around the decay; (*c*) an entire absence of the characteristic smell.

These three arguments are, I think, greatly in favour of the chemico-vital theory. We must have all noticed that sodden appearance presented by the dentine of a natural tooth that has been worn as an artificial substitute; and I am sure we all know the peculiar smell of caries in the living teeth, which was first mentioned by Salter.

Wedl states that he has observed the appearance of the calcified zone and pencils of tubes in caries artificially produced; but Salter thinks he must have mistaken the pale, deepest layer of carious dentine for this appearance. Magitot supports the opinion that the translucent zone is only to be found in the caries of living teeth.

There is one other theory among the minor ones which, from its peculiarity, deserves notice; it is that brought forward by Mr. Bridgeman, in his "Prize Essay on Caries." He asserts, that caries is due to an electro-voltaic action. He assumes first, that the true skin and blood-vessels are electro-negative, and that the epidermis is electro-positive. He then states that the dentine, as it replaces epithelium in the case of the tooth papilla, would be electro-positive, whilst the soft structures, blood-vessels, &c., surrounding the tooth, are electro-negative; thus the two poles being in contact electrical action is set up, and acid produced. It is difficult to see why, if a tooth with its appendages comprises in itself a small battery, it should not be destroyed as soon as it is cut, or even before. Mr. Bridgeman's statement, also, that the dentine is developed from the epithelium, we know to be wrong, and that if anything it would be electro-negative as well as the true skin and blood-vessels.

Numerous and elaborate tables showing the percentage of the different teeth, and also the particular teeth most prone to decay, have from time to time been drawn up; and although there are many discrepancies between them, they all agree that the first permanent molar is far more subject to decay than any other tooth. Next in order is the second permanent molar, the second bicuspid following. On notice-

ing the large number of first molars that decay, one naturally seeks for an explanation, and the one which I am inclined to give is, that the first molar, appearing at a very early age, before the patient at all appreciates the value of the teeth, and therefore does not cleanse or in any way attempt their preservation; and also the amount of sweet-meats and other substances containing saccharine matter which children consume, impregnating the saliva with sugar, which, collecting about the teeth, would become fertile in producing fermentative matter, and thus form some of the elements necessary for the production of caries.

The treatment of caries is so familiar to us all, that I have not thought it necessary to enter upon it.

The general conclusions that we may draw are :

1. Dental caries is a chemical alteration of the enamel and dentine of the teeth, modified by vital action.

2. It proceeds regularly from the outside to the inside of the organ, no thoroughly established example of internal caries exists.

3. Dental caries is one. Diversity of form and colour depends on simple secondary changes in the nature of the destroying agent, and the progress and duration of the disease.

4. When the dentine is attacked by caries, phenomena of reaction take place, which give rise to the appearance of a translucent zone, formed of tubuli whose interiors are partially or wholly filled up.

5. Little masses of secondary dentine will be formed in the pulp cavity and in the pulp itself.

6. The active causes or agents in caries are the secretions of the mouth, which have become the nidus of an acid fermentation, or the vehicle of foreign bodies capable of directly acting on the enamel and dentine.

7. The oral cavity and the saliva may normally present this disposition to fermentations, and caries will then be developed even in perfect health. This disposition may be equally transmitted by inheritance to the family and the race.

8. Different conditions of form and structure act powerfully as predisposing causes in the developing and the progress of caries.

9. Most of the characteristics of caries can be artificially produced.

Lastly. Anatomical predispositions to caries may be transmitted by descent in the family and in the race, a fact which serves to explain the instances of decay attacking, or selecting, as it were, certain kindred races.

Having finished my paper, it now only remains for me to thank you, Mr. President and gentlemen, for the patient and courteous attention you have given me.

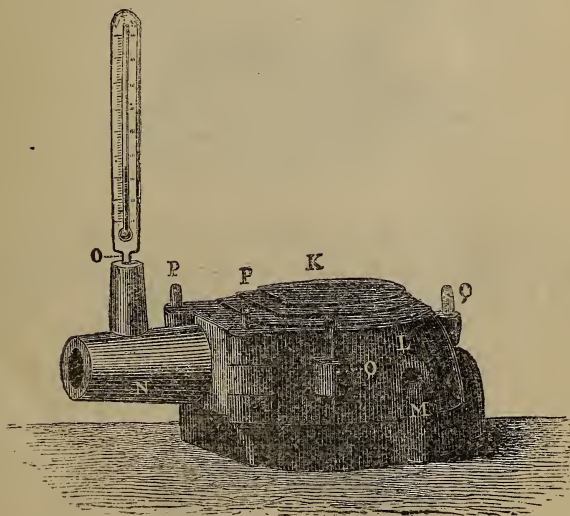
Mechanical Dentistry.

WINDERLING'S CELLULOID INJECTOR.

HAVING given a general description only of this apparatus in our last issue, we now proceed with a more detailed account.

The flask is made in three pieces (M, L, K), having on its face projecting studs, into which the mouth-piece or cylinder (N) is fastened by the bolts (P) in the centre of this face, and

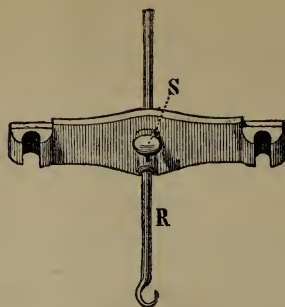
FIG. 3.



corresponding to the little aperture or outlet of the cylinder is a hole entering the flask; there are three other holes (Q) for outlets for the celluloid, each of which can be shut off with a pin when the celluloid shows itself. The vertical tube (O) is for a thermometer to regulate the softening of

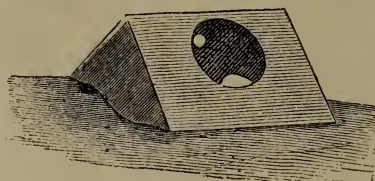
the celluloid. In order that the inlet to the flask shall accurately coincide with the outlet of the cylinder (an orifice

FIG. 4.



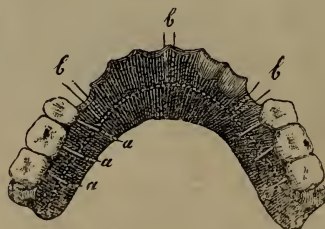
of about $\frac{1}{8}$ inch) a guide-plate (fig. 4) takes the place of the cylinder whilst flasking, and the long brass pin (R) is attached to the centre of the case to be injected—which is made in wax in the usual manner (but more accurately) as

FIG. 5.



for vulcanite—and fixed with the set screw (s). This guide plate is held in position by the pins (P P, fig. 3). As celluloid is highly inflammable, the guard (fig. 5) is placed

FIG. 6.

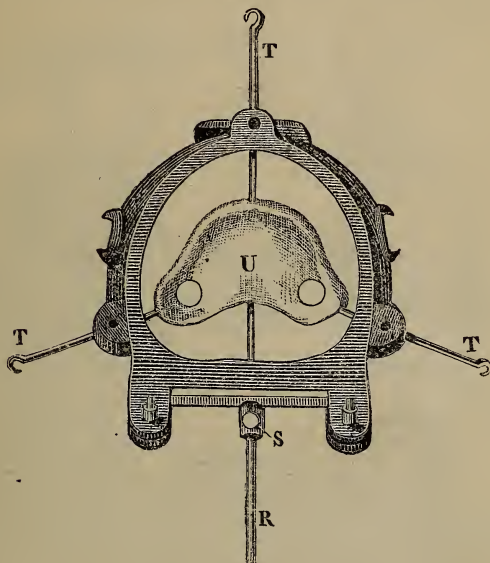


on the mouth of the cylinder to protect it from the flame which strikes it at the point (N, fig. 3). The case can be

flasked either with or without the model, the latter mode being shown in fig. 7, as fixed in the middle part of flask (L, fig. 3); T T T, the overflows; R, the inlet; s, the set screw.

The flasking is accomplished with one plastering and *never opened*, and when set the pins are withdrawn and the flask placed in a holder and put in a vessel of water, which,

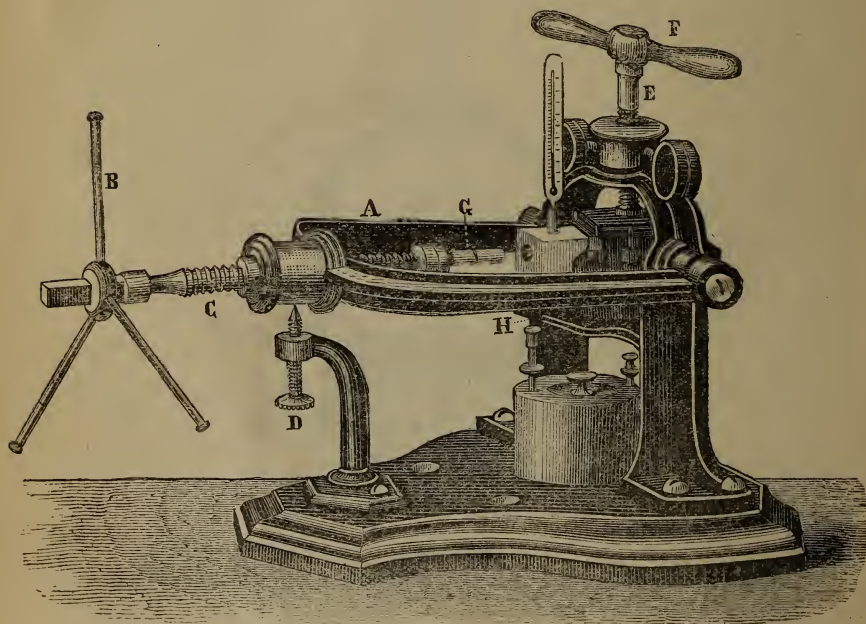
FIG. 7.



when boiling, floats out all the wax. As the plaster is never heated above boiling-point (212° Fahr.) it is not softened as in vulcanising; so, to facilitate the removal of the piece from the solid block of plaster, Mr. Winderling has ingeniously devised the plan of putting several little plates of brass into the plaster whilst soft in a vertical position and close to the model or piece, following its curves, and putting on these a flat plate horizontally, so that together they form a little box closely investing the case. When the block of plaster is removed from the flask a tap with a hammer readily sunders this internal box, leaving very little plaster to pick away from the mineral teeth (natural may be used if desired). If this be done carefully, the model can be preserved intact. A further ingenious notion is shown in fig. 6.

When the teeth are very short or so surrounded with wax

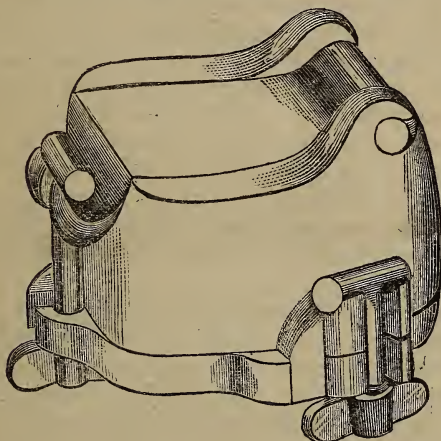
that the plaster would have but little hold upon them just before flasking, points of ordinary pins are just inserted under the shoulders of the teeth (*aaa*); and, as the remainder of the pins get embedded in the plaster, it is next to impossible for the teeth to fall or shift. In like manner all gold clips, bands, strengthening plates (internal or external) have only to have spurs or parts of themselves so arranged that they become embedded in the plaster, and they are sure to be found where they were placed when the work is completed.



The above engraving represents Winderling's Celluloid Injector with a flask *in situ* ready for the celluloid to be injected, showing the spirit lamp arrangement. The apparatus is about 13 inches long by 9½ inches high, is arranged with a double spirit lamp or gas burner. The flask is placed on the table (H) and firmly held in its place by tightening the screw (E). On the face of the flask is fixed by two pins the cylinder, arranged to hold a roll of celluloid, in the upper part of which is a tube for a thermometer; the burner is then lighted under the flask, when the moisture begins to boil out—212° Fahr.—the arm (A) is raised, the roll of celluloid inserted in the cylinder, and the burner under it lighted, the arm lowered

and the piston (G) brought into the mouth of the cylinder by the horizontal screw (C). When the thermometer rises to 280° Fahr. the levers (B) are to be steadily and regularly rotated (not slowly), and the semi-fluid celluloid will in a minute or so be forced through the flask and completed. The screw (D) regulates the height of the piston.

DE STAIN'S SAFETY FLASK.



As the best answer to inquirers on the above subject we insert engraving, which clearly shows the circular action of the lid with plug, which so thoroughly forces home the rubber without displacing the teeth. It will also indicate how the teeth are covered over and held down by the metal guard when the lower and middle parts are properly screwed together, rendering the raising of the bite impossible. Having used it for just twelve months, we can speak of its practical utility. For detailed description refer to the issue of September, 1878, page 478.

Chemical Department.

FLETCHER'S TRANSLUCENT FILLING.

I HAVE recently had an opportunity of examining a number of experimental plugs inserted in the mouth under different conditions with this filling. My own instructions being neglected in various ways, with the object of proving what conditions were, or were not essential to success.

It is quite evident that not only is the material totally different in its behaviour to any other, but that it requires very much more care and precise attention to details in working than any other white filling, and that neglect of any point entails failure. In its present form it is fit only for approximal cavities of easy access, as its working in most positions entails difficulties not easily surmounted.

Amongst the test fillings inserted, the following are specially to be noted as guides in its use. I have not used it in any case for molars or bicuspid, as it is not designed for cavities in these teeth.

Upper lateral, involving nearly the whole of the cutting edge; mixed hard, and varnish thoroughly dried. Five months shows great wear from mechanical abrasion, it remains perfect as a filling, and the junction with the tooth can only be detected by scratching with a probe.

Upper central, labial. Four months quite perfect. Mixed hard, and varnish thoroughly dried.

Upper central approximal, large plug. Mixed hard, but varnish applied too thick, and not properly dried on lingual surface. Labial surface, perfect and invisible, lingual surface considerably damaged (three months).

Upper approximal, three cavities. Mixed rather soft, and carefully varnished. Slowly failing after two months.

Lower approximal. Mixed very hard, and varnish perfectly dried (three months), quite perfect and invisible.

Upper approximal. Mixed hard, kept dry, two minutes, not varnished. Three plugs. All opaque on the surface, slightly raised, and soft; the plugs having visibly swelled with access of moisture before they were hard. It would appear from the above, that no success can be expected with this material unless it is mixed and worked very hard, and the varnish is both thoroughly applied and fully hard before access of moisture is permitted, and it is quite evident that eventually all the plugs in which these conditions

have not been thoroughly and perfectly attained, will have to be replaced. Being new and untried, except for a short time, I not only used it cautiously myself (except in experimental cases), but urged others to do so likewise, and it would appear that this caution has not been unnecessary. Whilst on the subject of possible failures, it will be well to call attention to the use of the porcelain cement for replacing teeth broken out of rubber. My first failure in this turned up a few days ago, after eight months wear, the wedge of porcelain cement being broken across the middle. On referring to my notes, I find that this has been caused by the cement having been packed in two parts, *i.e.*, round the pins and on the plates, the tooth being then pressed into its place. The fracture is along the line of joining, where the cement is packed in one block; whilst the tooth is in position I have had no failures.—THOS. FLETCHER.

CONTINUOUS GUM.

experiments on this material in the injector furnace if spirit petroleum is used as a fuel in the place of s no tendency to discoloration or blackening, even is fully exposed to the flame. There is no need for a muffle, and with the small benzoline nothing more is required with the small injector a mechanical protection from the impact of the to prevent risk of cracking the teeth. This can putting the work inside a clean clay crucible, and using, the whole can be slowly cooled down by stopping the burner and exit holes.

I have known for some time that in this furnace, when benzoline or spirit petroleum is used, the most delicate coloured enamels can be fused without protection and without loss of colour, but I have only recently practically tested the arrangement with continuous gum work.

Of course, some judgment is required to heat up the work carefully and slowly by working the furnace at first at a very low power, but it would appear that with this arrangement continuous gum work becomes exceedingly simple, requiring no more time and trouble than ordinary vulcanite work after the plate is made.—THOS. FLETCHER.

From

Message

132-4-33-10M

MERCURY FOR DENTAL PURPOSES.

It has been frequently stated that chemically pure mercury is necessary for amalgams. It is a difficult matter to attempt to trace this to its original source, or to find any proof in any way bearing on the matter. What proof there is, unfortunately tends in the opposite direction; as the metals from which the fillings are made are, as a rule, far more impure than ordinary redistilled mercury. As an example, in the 'Transactions of the New York Odontological Society,' an assay is given of an amalgam stated to be made of chemically pure metals: unfortunately for this statement, the assay showed the presence in appreciable quantities, of iron, arsenic, zinc, and several other metals, including a very large proportion of copper.

It may be safely taken that redistilled mercury, which has stood under dilute nitric acid for a few days, is far more free from foreign metals than the majority of alloys used for amalgams, which, with one or two exceptions, are made from the metals 'commercially pure,' *i.e.*, not containing large quantities of foreign metals, but far from being chemically pure.

The tests for pure mercury are—It should leave no residue when dissolved in nitric acid, evaporated, and ignited; or when fused with sulphur and sublimed in a glass flask.

Provided it leaves no tail on a gently inclined board, and forms no *black* powder when shaken, in dry air it may be considered as perfectly pure for all purposes, and it will be found that redistilled mercury, which has been treated with weak nitric acid for few days, or the electrically purified mercury prepared by Johnson, Matthey & Co., will stand these tests.—S.

British Journal of Dental Science.

LONDON, JULY, 1879.

It is with much pleasure that we publish in this issue (by authority) the Laws of the New British Dental Association. It will be evident to anyone who examines them carefully and attentively that they are the result of much anxious thought and studious endeavour to meet the requirements of as large a number of Dental practitioners as possible; to please all is manifestly impossible. To have framed such laws as would have involved the admission of *any one* who, regardless of consequences, chose to call himself "Dentist" and register accordingly, would have been to ensure the non-adhesion of the best class of practitioners, without whose zealous co-operation no Dental association could prove a success. To meet the requirements of a large number of provincial practitioners, Law 4 is so worded that there is nothing therein to prevent a Dentist from putting an advertisement in the local papers—stating his name and address, profession, and hours of attendance at various places—that is all honest practitioners require, and those only are the men whose co-operation is desired by the British Dental Association. In mentioning these facts we trust our readers will entirely exonerate us from swerving in any way from our long established and well-known principles on the subject of advertising. We have always maintained, and do so still, that to advertise one's profession is *unprofessional*, and we have no doubt that there are very few of the gentlemen concerned in drawing up the laws which we are now alluding to, who have not the same feeling as ourselves. Nevertheless, considering the present condition of the Dental world, we think they have exercised a wise discretion in not drawing the line too tight.

The main principles upon which membership with the British Dental Association is based, are very clearly shown in the Laws 4 and 5, which are as follows :

" 4. A person who is registered in the Dentists Register shall be eligible for

election as a member of the Association, provided that he be of good character; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show-case exposed to public inspection; or by means of public advertisements, or circulars describing modes of practice, or patented or secret processes; or by the publication of his scale of professional charges.

"5. Any registered Dental practitioner who can subscribe to the conditions laid down in Bye-law 4, and who desires to be enrolled in the Association, shall be so enrolled on his signing a declaration (provided by the Association) embodying the aforesaid Bye-law, and forwarding it with the subscription of one guinea to the Hon. Secretary or Treasurer before March 3rd, 1880; after which date any registered practitioner not disqualified by any Bye-law, who shall be recommended as eligible by any three members of the Association, may be elected a member by the Representative Board or by a committee appointed for that purpose by that Board."

Any one desiring to join the Association is required to signify his adhesion to these laws by signing the following form :

I hereby accept the conditions laid down in foregoing Bye-laws, Nos. 4 and 5, and desire to be enrolled as a member of the British Dental Association.

(Signed) _____

Date _____

Address _____

To _____

Hon. Sec. of the British Dental
Association.

There are men who will cavil at anything and everything, and we doubt not there will be plenty to find fault with the laws now publicly laid before them; let them do so now promptly and openly, let the Executive Council hear at once all they have to say—the laws as yet have only passed that Board—they have still to await the approval of a general meeting, which will, no doubt, be called at the earliest possible moment; but with all the spirit that is so common in the world, of finding fault with the work done by others, but which the fault-finder has not had the pluck to do himself, we can scarcely believe that there will be any important objections made to these laws, and we therefore confidently urge upon every one, who feels he is eligible, to send in his adhesion at once to our zealous, hardworking, and

indefatigable secretary, Mr. James Smith Turner, 12, George Street, Hanover Square.

It must not be forgotten that one of the chief objects of this Association "is to watch over and further the general interests of the profession with especial reference to the carrying out of the spirit and provisions of the Dentists Act," and one of the most delicate and difficult tasks that the Committee will have on its hands will be the careful consideration of, and investigation into the charges that are being constantly brought against many who have registered, but are not deemed by those who know them to have done so within the spirit and meaning of the Act. To carry out these investigations with justice to all parties will require a great expenditure, not only of time, but of money. Amongst other items of expense, lawyers must be consulted, and they never give advice gratis. Then, again, it cannot be expected that the Hon. Secretary, Mr. Turner, should undertake all the drudgery of such correspondence as must ensue. His work hitherto has been a labour of love—love for his profession—and a desire to see it hold a higher and worthier position in the eye of the Law than it has hitherto held; and he has spared neither time nor trouble, or sacrifice of his professional emoluments to co-operate with, and support Mr. Tomes, whose untiring brain has guided it all to a successful termination. But that labour of love to which we have alluded is now terminated, what remains is mere routine, almost mechanical work, and though we may still desire to have the benefit of Mr. Turner's secretarial supervision, it is only right and just that he should have a paid secretary to assist him.

Now all this requires MONEY, and it is now that it is needed. As years roll on probably the Association will increase in numbers and subscriptions, but that will not pay for the present. It is *now* that support is wanted, *now* that Dentists should send in their adhesion, *and* their money. They want their interests looked after, they want this man or that man prosecuted for infringing the Act—then they must pay for it. The Reform Committee have worked *con amore*, but the lawyers and the clerks will not!

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

MONTHLY MEETING, MONDAY, JUNE 9TH, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

THE usual monthly meeting of this Society—the last meeting of the session—was held at the Dental Hospital on the 9th ult. ; Edwin Saunders, Esq., President, in the chair. Messrs. Thos. A. Roberts, of Charlwood St., Belgrave Road, and Edward Geo. Betts, of Holloway, were elected resident members ; and Edward Fothergill, of Newcastle-on-Tyne, Chas. D. Cooke, of Brooklyn, New York, George L. Parmelu, of Hertford, Connecticut, and Geo T. Moffatt, of Boston, U.S., were elected non-resident members of the Society. Messrs. G. W. Parkinson, of Sackville St., Francis Ewbank, of Savile Row, Charles Foran, of Eastbourne, and Adam Taylor, of the Indian Med. Service, Peshawur, were proposed for election.

THE PRESIDENT announced that Mr. Howath, a student at the hospital, had presented to the Museum a case made of aluminium and vulcanite which had been in constant use for fifteen years, and yet showed no signs of deterioration. It had not been struck up in the usual way, but had been cast in a mould and vulcanised afterwards.

MR. STORER BENNETT exhibited a contrivance for twisting misplaced teeth. It consisted of a vulcanite plate in which the rubber was thick behind the tooth to be moved, but cut away just behind the part to be drawn in. A tunnel was cut through the thick rubber extending from immediately behind the projecting edge of the tooth to the lingual surface of the plate. Two short slits were cut in the free edge of the plate opposite the tunnel, their anterior extremities being joined by a shallow groove on the palatine surface of the plate. A hook, made of half-round gold wire, was adjusted over the projecting edge of the tooth ; to the other end of the hook, which lay in the tunnel, a small "jump ring" was soldered, and to this was attached a small rubber band which was passed over the notches in the edge of the plate. The apparatus did not show in the front of the mouth ; the trachor exerted, though slight, was constant and equable, and the tooth was moved with but little pain. And, lastly, it was easy of application, and the patient himself could renew the rubber rings ; thus but few visits were required.

MR. CHAS. TOMES showed a regulation plate which he

stated to be one of the simplest and best he had yet met with. It was the invention of Mr. Palmer, of Cheltenham, who stated that he had succeeded in getting by its aid an expansion of the arch with very few attendances.

The PRESIDENT then called attention to a new celluloid and vulcanite injector, made by Messrs. Winderling and Sons, of Milan, which had been sent for exhibition by Mr. Charles James Fox.

Mr. OAKLEY COLES said the apparatus appeared to him to be unnecessarily complicated ; he believed that several of the machines now in use would do the work in less time and quite as perfectly. It was, no doubt, a very ingenious piece of mechanism, and great credit was due to the inventor for having brought it to such perfection, but he thought it would be found in practice to be too elaborate and complicated, and that it would not give any better results than the simpler processes with which they were already acquainted.

Mr. HUTCHINSON said that having seen the apparatus worked by Mr. Winderling himself, he thought it offered more advantages than Mr. Coles had given it credit for. Although somewhat complicated in appearance it was really simple enough in structure. Its chief advantages were—that the plaster was never exposed to wet heat, and consequently remained of stony hardness, so that it was impossible to squeeze the teeth into the plaster ; then, owing to the gradual action of the screw on the piston and the provision of the vents at the back of the flask, there could be no undue pressure on the teeth ; and, lastly, the uniform temperature at which the celluloid was kept rendered it much less liable to shrinkage.

Mr. COLES asked how it was that Mr. Winderling had come to the conclusion that dry heat was better than moist for working celluloid ? most experimenters had found steam or oil best to work with.

Mr. WEISS said that his experience was that the higher the temperature to which the celluloid could be exposed short of destroying its structure the better would be the result. The plate should be kept for about half an hour at a temperature of 280° Fahr., it would then be found to be much denser in substance and harder on the surface than one which had only been heated to 212° ; it would thus be much less liable to get scratched or frayed in the mouth, which was one of the great objections to the use of celluloid.

Mr. TURNER remarked that celluloid was apt to warp even after it had been in use for some time : was the liability to this diminished by the use of Messrs. Winderling's apparatus ?

The PRESIDENT answered that Mr. Winderling insisted strongly on the importance of always keeping the plate moist. He kept the plates in metal cases each containing a piece of sponge which was to be carefully damped whenever the plate was put away.

Mr. COLES said that some ten years ago he had called attention to the fact that alternate moistening and drying of celluloid plates favoured warping, but that if kept in one state or the other but little alteration in shape would occur. In this respect celluloid behaved very like bone.

Mr. HUTCHINSON showed, for Messrs. Coxeter, of Grafton Street, a mouth mirror illuminated by the electric light, intended for exploring the mouth in dull or foggy weather. In general arrangement it resembled a similar apparatus invented by M. Trouvé, of Paris, but Messrs. Coxeter had introduced some important improvements. The battery was a "permanent" one, *i. e.* required renewing but rarely; electrical action was excited by the action of platinum and peroxide of manganese; the passage of the current could be regulated. They had also devised a means of keeping the mirror cool by passing a current of water round the back. The light would last for from twenty to thirty minutes.

Mr. COLEMAN said that some of the members present might recollect that a similar apparatus was exhibited before the Society some years ago, but he could not remember by whom. The light was certainly a more powerful one than that now shown by Messrs. Coxeter for it enabled one to see through the alveolar processes, the outlines of the fangs of the teeth being made distinctly visible.

Mr. ROBERT HEPBURN said he also remembered seeing the apparatus to which Mr. Coleman had referred. It was invented by Mr. Hart, of Edinburgh, an eminent practical electrician, and was exhibited before the Society about ten years ago. Mr. Coleman's account of its capabilities was perfectly correct.

Mr. COLES said that the great objection to M. Trouvé's apparatus, which was primarily intended to illuminate the larynx, was that the platinum was occasionally melted by the intensity of the current, and the hot metal falling on the vocal cords burnt holes in them. He was glad to see that Messrs. Coxeter had guarded against this by enclosing the platinum in a glass tube. He had no doubt that before long the electric light would be successfully adapted to Dental requirements.

Mr. HUTCHINSON exhibited a supernumerary tooth which he had removed from a boy about thirteen years of age; it occupied the place of the permanent lateral incisor. On

extracting it he found the root dilated and filled with pus; having washed this away he found what appeared to be a rudimentary tooth inside it, and thought that in some uncomprehensible way the permanent lateral might have become inclosed in the other. On close examination he found that the appearance was due to a dipping down of the superficial enamel, and that the tooth was made up of two denticles each with a separate pulp cavity. Similar cases were mentioned in Mr. Tomes' work, p. 227 (first edition), when it was stated to be rare.

Mr OAKLEY COLES showed, for Mr. Hatfield, a large salivary calculus which he had removed from the mouth of an old lady; when *in situ* it almost covered three incisors, a canine, and the stump of a bicuspid.

The PRESIDENT then called upon Mr. Arthur Underwood to read his paper "On the Functions of the Nerves of Taste."

Mr. UNDERWOOD said that until recently it had been generally held by physiologists that the perception of taste was conveyed to the cerebrum by the agency of *two* nerves, the glosso-pharyngeal and the lingual branch of the fifth nerve, the former being distributed over the root of the tongue, the latter to the tip and sides. This opinion was supported by the undoubted fact that section of either of these nerves was followed by loss of taste in the region which it supplied.

So far as the glosso-pharyngeal nerve was concerned there could be no doubt that this view was correct, but of late years evidence had been brought forward by Drs. Dixon, McDonnell, Althaus, and others, which threw great doubts upon the right of the fifth nerve to be considered in any degree a nerve of taste.

This conclusion had been arrived at chiefly as the result of close and accurate observation of cases of disease. Thus, it has been found that complete paralysis of the fifth nerve, including, of course, its lingual branch, caused loss of sensation but not of taste. And that paralysis of the seventh nerve, due to lesion of its interpetrosal portion, affected the sense of taste but did not affect common sensation. Carefully conducted experiments had now fully established the following facts.

(i.) That section of the lingual nerve after the chorda tympani has joined it causes loss of sensation *and* loss of taste.

(ii.) Section of the lingual before the chorda tympani joins it causes loss of sensation, but does not affect the sense of taste.

(iii.) Section of the chorda tympani before it joins the

lingual causes loss of taste, but does not affect common sensation. From this it would be evident that the lingual nerve itself had no influence over the sense of taste, but that the power which it appeared to possess was derived from the chorda tympani. Whence then did the chorda tympani obtain it.

By careful comparison of the results of injury of the seventh nerve, either by disease or by accident, it had been shown that lesions of its trunk in the aqueduct of Sylvius were accompanied by loss of taste in the fore part of the tongue, but that central paralysis of the portio dura or section of it higher up than its gangliform enlargement did not interfere with the sense of taste.

The next step in tracing this influence backwards was to discover by what channel it joined the seventh nerve. The communications of this nerve within the part of its course above indicated are as follows:—(i) the great superficial petrosal nerve from Meckel's ganglion; (ii) the lesser superficial petrosal from the otic ganglion; and (iii) the "nervus anastomoticus" from the glosso-pharyngeal which joins it just outside the stylo-mastoid foramen.

Branches i and ii apparently referred us back to the fifth nerve, which had been proved by the authorities already mentioned to have no power of conveying taste. On the other hand, Schiff, a high authority, had come to the conclusion, after numerous experiments, that the perception of taste in the fore part of the tongue was certainly impaired by the removal of Meckel's ganglion or by the division of the great superficial petrosal. How were these contradictions to be reconciled?

The fact was that the nervus anastomoticus was not the only communication which the seventh nerve received from the glosso-pharyngeal; the latter gave off a tympanic branch, which divided and joined both the greater and lesser petrosal nerves between their ganglia and their union with the facial.

From this it would appear that the sense of taste, instead of being divided between two nerves so dissimilar in other respects as the glosso-pharyngeal and the fifth, was really presided over by the former alone; that the glosso-pharyngeal must be regarded as undoubtedly the special nerve of taste, just as the optic and auditory nerves presided over sight and hearing; and that the lingual branch of the fifth had as little to do with the sense of taste as the ophthalmic branch of the same nerve had to do with the sense of sight.

Mr. Underwood concluded his paper with some remarks on the right of the faculty of taste to be considered as a

special sense. This had been denied by some; it had been said to be a compound sensation derived partly from touch and partly from smell. The loss of taste which accompanied a cold had been pointed to as proof of its intimate connection with the olfactory sense. But though it might not be so highly specialised (*i.e.* not so thoroughly different from common sensation) as the senses of sight and hearing, he still defended its right to the position which had generally been accorded to it.

The PRESIDENT complimented Mr. Underwood on his successful paper; he had treated his subject in a very clear and able manner. It was very gratifying to him as one of the original members of the Society to see the second generation coming forward to support it; the fact spoke well for the future prospects of the Society.

Mr. COLEMAN said that some years had elapsed since he was a student, and during that time his knowledge of the minute anatomy of the cranial nerves had become rather rusty. But he remembered that even in his student days he was taught that the glosso-pharyngeal was the special nerve of taste, and that the lingual branch of the fifth supplied the tactile papillæ on the fore part of the tongue. It must be remembered that much that was generally considered to be taste was really more nearly allied to the sense of touch, as, for instance, the sensations produced by salt, mustard, &c. Other tastes were appreciated by means of the sense of smell, as in the case of delicate wines which owed their highly valued "bouquet" to the presence of volatile ethers. Mr. Underwood's conclusions did not, therefore, strike him as very novel, they only confirmed the truth of what he had been taught years ago.

Mr. OAKLEY COLES said he should like to ask Mr. Underwood if he had made any investigations respecting the power of the soft palate to convey the sense of taste. Some years ago Mr. Annandale, of Edinburgh, successfully excised the whole of the tongue, and a series of experiments were afterwards carried out on this patient, which seemed to prove that the soft palate possessed this power to a considerable extent.

Mr. HUTCHINSON asked if Mr. Underwood could explain why the sense of taste was lost when the hard palate was covered with a suction plate. If part of the plate was cut away patients said they could taste better. Since taste was conveyed from the tongue rather than from the palate it was difficult to understand why covering the palate should make so much difference.

Dr. WALKER said he believed the loss of taste in these

cases was due to the contact of the tongue with a hard dry substance; moisture was certainly necessary for the clear perception of taste. In the case of a tea-taster, for whom he had fitted an upper denture, he had removed this trouble by telling the patient to place the tip of his tongue between his lips in tasting instead of against the palate. The comparative dryness of the mouth which accompanied a cold was, he believed, the cause of the loss of taste which occurred under those circumstances.

Mr. OAKLEY COLES said that he had met with cases in which patients had lost part of their hard palate, and had at the same time suffered from impaired taste, and had recovered their taste when an artificial palate was fitted. He believed that the loss of taste which followed the insertion of a rubber palate was due to the tongue coming in contact with a hard substance to which it was not accustomed, and that as soon as it had become habituated to the novel sensation the power of tasting returned.

Mr. DAVID HEPBURN said that Mr. Underwood appeared to him to have lost sight of the real use of the chorda tympani nerve. The seventh nerve was essentially a nerve of motion, and the cephalic ganglia obtained their motor power from it; thus, Meckel's ganglion received its motor supply by the great petrosal nerve, the otic ganglion got its motor power by the lesser petrosal, and it seemed to him natural to suppose that the chorda tympani stood in the same relation to the submaxillary ganglion. It seemed to him also more rational to suppose that the fifth nerve had of itself some power of conveying the sense than to suppose that this power was conferred upon it by means of the round-about and complicated connections which Mr. Underwood had endeavoured to trace.

Mr. A. UNDERWOOD, in reply, said that the opinion expressed by Mr. Coleman, that the fore part of the tongue was not really susceptible to taste, was not an uncommon one. Others, unable to deny that it did possess this power to some extent, had attempted to explain it by supposing that particles of sapid substances placed on the tip of the tongue were quickly carried to the back part along with the moisture. The results of experiments and the effect of disease left, however, no doubt that a decided impairment of the power of taste followed section of the chorda tympani.

With regard to the effect of an artificial palate on the sense of taste he thought the explanation already given was probably correct, and that with patience on the part of the patient the power would be recovered as the tongue became

accustomed to contact with the foreign body. Mr. Hepburn's opinions were so diametrically opposed to his own that he despaired of being able to convince him of his errors in the very short time at his disposal; he could only ask him to read the articles in the 'Med.-Chir. Transactions,' &c., to which he had referred in his paper. Mr. Hepburn had asserted that the chorda tympani was a motor nerve, but Dr. Hughlings Jackson had divided it and then galvanised the cut end, but no movements followed. Dr. MacDonnell's case was also very conclusive on this point; the nerve had been destroyed by disease, and the patient had lost all perception of taste over the fore part of the tongue, yet sensation and motion were not affected.

After the usual vote of thanks the PRESIDENT announced that at the November meeting he hoped the Society would be favoured with a paper by Professor Flower, of the Royal College of Surgeons, "On Some Peculiarities in the Development of the Teeth and Jaws in certain Tribes of Circassians and Mongolians."

The meeting then terminated.

BRITISH DENTAL ASSOCIATION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have much pleasure in forwarding to you a proof copy of the Bye-laws of the British Dental Association, as sanctioned by the Representative Board. I trust it may be in time for your July issue, and that you will do me the favour of publishing it, as the Board is anxious to let the profession know as soon as possible what has been done.

Those gentlemen who may wish to join the association, on the conditions specified, can have a copy of the declaration for signature, by applying to me by letter.

Obediently yours,

JAMES SMITH TURNER.

12, George St., Hanover Sq.,
London, W.; June 27th, 1879.

Hon. Sec. British Dental Association.

Bye-laws of British Dental Association.

NAME.

1. The name of the Association is THE BRITISH DENTAL ASSOCIATION.

OBJECTS.

2. The object for which the Association is established is to watch over and further the general interests of the profession with especial reference to the proper carrying out of

the spirit and provisions of the Dentists Act, by means of a Representative Board, appointed March 3rd, 1879, which is empowered to organise special committees for the establishment of and administration of (a) A Dental Benevolent Fund; (b) for the consideration of questions involving professional conduct or usage; and (c) for any other object that may appear desirable.

BYE-LAWS.

3. An Annual Meeting of the Members of the Association shall be held in the month of _____; the time and place of such Annual Meeting to be determined by the Association at the preceding Annual Meeting; but no two Annual Meetings shall be held in succession at the same place.

4. A person who is registered in the Dentists Register shall be eligible for election as a member of the Association, provided that he be of good character; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show-case exposed to public inspection; or by means of public advertisements, or circulars describing modes of practice, or patented or secret processes; or by the publication of his scale of professional charges.

5. Any registered Dental practitioner who can subscribe to the conditions laid down in Bye-law 4, and who desires to be enrolled in the Association, shall be so enrolled on his signing a declaration (provided by the Association) embodying the aforesaid Bye-law, and forwarding it with the subscription of one guinea to the Hon. Secretary or Treasurer before March 3rd, 1880; after which date any registered practitioner not disqualified by any Bye-law, who shall be recommended as eligible by any three members of the Association, may be elected a member by the Representative Board or by a committee appointed for that purpose by that Board.

6. The subscription to the Association shall be one guinea annually; the subscription to date from the time of election and from the 1st of January in each subsequent year, and be considered to be due in advance.

7. Any Member failing to pay his subscription before December 31st shall cease to exercise the privileges of Membership, and if the subscription be not paid by December 31st of the next following year he shall cease to be a Member, and be ineligible for readmission until all arrears due on ceasing to be a Member shall have been paid. A Member wishing to withdraw from the Association shall give a written notice to that effect to the Hon. Secretary

before the 1st of January on which his subscription becomes due.

8. Any Member may be removed from the Association by a resolution of the Representative Board if carried by three fourths of the Members present, subject to confirmation at the next Annual Meeting, and he shall thereupon cease to be a Member: One month's notice of the intention to propose such resolution shall be given to any Member affected thereby.

9. The Officers shall consist of a President and President-elect, Treasurer and Hon. Secretary of the Association, and a President and Vice-President of the Representative Board,

10. The President of the Association shall be nominated by the Representative Board, and elected annually at the Annual Meeting, and shall enter upon the duties of his office at the next Annual Meeting, and until then shall bear the title of President elect.

11. The President and Vice-President of the Representative Board shall be elected by the Board. They shall hold office for three years, and at the meeting of the Board which determines their term of office a President and a Vice-President of the Representative Board shall be elected for the ensuing three years.

12. The Treasurer of the Association shall be elected at the Annual Meeting. He shall hold office for three years and shall be a member of the Representative Board.

The Treasurer shall receive the subscriptions and other moneys payable to the Association, and discharge all the accounts which have been ordered by the Board to be paid.

13. The Hon. Secretary of the Association shall be appointed by the Board, and shall be a member thereof; and there shall also be a paid Secretary acting under him, appointed by the Board.

14. Duties of the Hon. Secretary shall include being present at the meetings of the Association, of the Representative Board, and of all Committees of the Board; the recording their respective minutes; the conducting the correspondence, superintending the collecting the subscriptions, and acting generally under the direction of the Representative Board.

15. The paid Secretary shall be remunerated as the Representative Board may think fit, and shall hold office during the pleasure of the Board, subject to receiving or giving (as the case may be) three months' notice to determine his appointment.

16. The Representative Board shall consist of the President and President elect of the Association and of at least 40

Members, including the President and Vice-President of the Board, the Treasurer, and Hon. Secretary.

17. The Representative Board shall meet not less than four times a year, and in the absence of the President and Vice-president, a chairman shall be appointed by the meeting. The Meetings shall be held at such time and place as the Board shall appoint. Seven Members shall be a quorum.

18. A Special Meeting of the Representative Board may be called by the President of the Board on a requisition signed by not less than eight Members of the Board stating the business for which the special Meeting is required. No other business shall be transacted at such Meeting excepting that for which it has been called.

19. After the members of the Representative Board elected by the public meeting of March 3rd, 1879, have held office for two years ten members of the Board selected by the members of the Board shall retire annually. The vacancies thus created shall be filled up by the members of the Association at the Annual General Meeting, from such of their number as have been nominated by not less than six members of the Association, the nominations to be forwarded to the Hon. Secretary not less than one month before the Annual General Meeting. Retiring members of the Board shall be eligible for re-election.

20. The Representative Board shall manage the general affairs and business of the Association, except as otherwise provided by the Bye-laws. They shall also regulate the order of business, and shall nominate the readers of addresses at each Annual Meeting.

21. The Representative Board shall receive and investigate by the help of professional assistance or otherwise charges of offences alleged to have been committed against the Dentists Act, and if such charges are found to be supported by sufficient grounds, each case with the supporting evidence shall, if not otherwise disposed of, be brought before the General Medical Council.

22. In the event of the death, or resignation, or the incapacity of any officer of the Association, the Representative Board may appoint a successor till the next Annual Meeting.

23. The Representative Board shall have power to appoint such committees as they may judge necessary for the efficient transaction of the business of the Board.

24. No Bye-laws shall be altered or repealed, or any new Bye-laws adopted, except at the Annual General Meeting; nor unless a written notice of the terms thereof be sent to the Hon. Secretary at least one month before the Annual Meeting.

"The establishment and administration of a Dental Benevolent Fund" is under the consideration of the Board.

June, 1879.

Any one desiring to join the Association is required to signify his adhesion by signing the following declaration :

I hereby accept the conditions laid down in foregoing Bye-laws, Nos. 4 and 5, and desire to be enrolled as a member of the British Dental Association.

THE TOMES AND TURNER TESTIMONIAL FUND.

THE following circular, with List of Subscriptions, has been issued by the Committee of this fund :

LONDON, APRIL 28TH, 1879.

DEAR SIR,

The Committee of "The Tomes and Turner Testimonial Fund" desire briefly to explain the object of of this Appeal to the Profession. Mainly by the exertions of Mr. Tomes and Mr. Turner—although others have notably contributed—the great work of Legislative recognition has been accomplished. To obtain this, the labour of three years has been unceasingly devoted to the task. Even briefly to enumerate the details would be impossible within the compass of a note. Suffice it to say that neither time nor personal expenditure have been spared. All who have in any degree interested themselves with the subject will acknowledge the energy, determination, and perseverance, which have so completely and satisfactorily achieved the results; and the Committee cannot doubt that those who approve the object of the Testimonial will cordially join in an adequate recognition of these services as a proof of their gratitude, and as an incentive to the exertions of others.

We are, Dear Sir,

Yours faithfully,

H. J. BARRETT, *Chairman.* EDWIN SAUNDERS, *Treasurer.*
T. A. ROGERS, *Vice-Chairman.* ALFRED HILL, *Hon. Sec.*

The following is the first list of subscriptions received. A further list will be published next month :

			£	s.	d.
Able, A., Harrogate	...	...	2	2	0
Alabone, A., Isle of Wight	...	...	1	1	0
Bacon, W. B., Tunbridge Wells	...	...	1	1	0
Barrett, A., London	...	...	1	1	0
Barrett, H. J., ,	...	...	10	10	0
Bate, J. S., Plymouth	...	...	2	2	0

			£	s.	d.
Bennett, F. J., London ...	...	...	1	1	0
Bennett, S., „ ...	...	...	1	1	0
Bever, H. A., Oxford ...	...	...	1	1	0
Birt, S., Brighton ...	...	...	2	2	0
Brand, E. E., Exeter ...	...	...	2	2	0
Bromley, C. H., Southampton ...	...	...	1	1	0
Brown, R., Tavistock ...	...	...	1	1	0
Campion, H., Manchester ...	...	...	5	5	0
Canton, F., London ...	...	...	1	1	0
Clarke, T. M., Richmond ...	...	...	1	1	0
Coleman, A., London ...	...	...	5	5	0
Cormack, D., „ ...	...	...	2	2	0
Cox, E., Preston... ..	...	...	0	5	0
Cronin, A., London ...	...	...	2	2	0
Cunningham, J. T., Edinburgh...	...	...	2	2	0
Davis, W. C., Bristol ...	...	...	1	1	0
Dally, F., Wolverhampton ...	...	...	1	1	0
Dennant, J. D., Brighton ...	...	...	2	2	0
Didsbury, J. M., Paris ...	...	...	0	8	0
Fletcher, J. B., London ...	...	...	5	5	0
Fletcher, T., Warrington ...	...	...	2	2	0
Forsyth, W. F., London ...	...	...	5	5	0
Fox, C. J., „ ...	...	...	1	1	0
Gartley, J. A., „ ...	...	...	2	2	0
Gibbins, A., „ ...	...	...	1	1	0
Gibbons, T. C., Brighton ...	...	...	1	1	0
Gilbert, W. J., London... ..	...	...	1	1	0
Grayson, E., Kendal ...	...	...	1	1	0
Greenfield, J., London ...	...	...	1	1	0
Gregson, G., „ ...	...	...	1	1	0
Harding, T. H. & M., London...	...	...	6	6	0
Harding, W. E., Shrewsbury ...	...	...	1	1	0
Heath, T. W., Richmond ...	...	...	1	1	0
Henry, G., Hastings ...	...	...	2	2	0
Henry, W. F., London ...	...	...	1	1	0
Hepburn, D., Edinburgh ...	...	...	1	1	0
Hepburn, D., Finchley ...	...	...	1	1	0
Hepburn, D., London ...	...	...	1	1	0
Hepburn, R., „ ...	...	...	1	1	0
Hill, A., „ ...	...	...	5	5	0
Hinds, J., Coventry ...	...	...	2	2	0
Holland, J., London ...	...	...	1	1	0
Hoole, S., „ ...	...	...	2	2	0
Huet, F. A., Manchester ...	...	...	1	1	0
Hugo, S. G., Guernsey ...	...	...	0	10	0
Hunt, W., Yeovil ...	...	...	1	1	0

		£	s.	d.
Hutchinson, S. J., London	...	1	1	0
Ibbetson, G. A., „	...	5	5	0
Imrie, W., Paris...	...	5	5	0
Jenkin, S., Malta	...	1	1	0
Jepson, A., Leamington...	...	1	1	0
Jordan, W. H., London...	...	2	2	0
Karran, J., Isle of Man...	...	2	2	0
King, E. H., Godalming	...	1	1	0
Lindsay, J. B., Dover	...	1	1	0
Longhurst, S. & B., London	...	5	5	0
McAdam, G. C. Hereford	...	2	2	0
Macgregor, M., Edinburgh	...	2	2	0
McLeod, W. B., „	...	5	5	0
Magor, M., Penzance	...	1	1	0
Mahonie, T., Sheffield	...	3	3	0
Margetson, W., Dewsbury	...	2	2	0
Martin, J. H., Portsmouth	...	1	1	0
Melrose, E., Bolton	...	2	2	0
Merryweather, Dr., Sheffield	...	2	2	0
Moon, H., London	...	4	4	0
Mosely, A., Newcastle	...	1	1	0
Mummery, J., London	...	2	2	0
Mummery, J. R., „	...	6	6	0
Murphy, J. E. & O. B., Derby...	...	2	2	0
Nightingale, E. G., Shrewsbury	...	1	1	0
Offord, J. S., Norwich...	...	1	1	0
Owen, R., Wolverhampton	...	1	1	0
Parkinson, Jas., London	...	5	5	0
Peacock, C. J., Scarborough	...	2	2	0
Pearman, G. B., Torquay	...	0	10	6
Petty, F., Reading	...	1	1	0
Pillin, L. B., London	...	2	2	0
Pitowsky, A., Barnstaple	...	1	0	0
Read, T., London	...	1	1	0
Read, W., Brighton	...	1	1	0
Reid, R., Edinburgh	...	1	1	0
Ritson, J. L., Penge	...	1	1	0
Roberts, C. D., London...	...	1	1	0
Rogers, H., „	...	10	10	0
Rogers, R., Cheltenham...	...	1	1	0
Rogers, T. A., London	...	10	10	0
Rogers & Kissack, Manchester...	...	3	3	0
Rose, T., Liverpool	...	2	2	0
Rymer, S. L., Croydon	...	5	5	0
Samuel, P. W., Stockton-on-Tees	...	1	1	0
Saunders, E., London	...	10	10	0

			£	s.	d.
Sewill, H., London	...	...	5	5	0
Smith J. A., „	...	...	2	2	0
Steele, J., Croydon	...	...	5	5	0
Stocken, J., London	...	...	5	5	0
Surenne, J. G., Edinburgh	...	...	1	1	0
Tindall, C., Ipswich	...	...	0	10	6
Tod, E. M., Brighton	...	...	2	2	0
Vanderpant, F. J., Kingston	...	...	2	2	0
Vasey, C., London	...	...	1	1	0
Walker, J., London	...	...	5	5	0
Waller, R., Cairo	...	...	2	2	0
Weaver, G., „	...	...	1	1	0
Weiss, F. & Son, London	...	...	1	11	6
West, C. B., „	...	...	2	2	0
Whatford, J. H., Eastbourne	...	...	2	2	0
White, H., Lincoln	...	...	1	1	0
Williams, C., Leamington	...	...	1	1	0
Willis, W. F., London	...	...	1	1	0
Wilson, A., Edinburgh	...	...	1	1	0
Wood, W. R., Brighton	...	...	2	2	0
Woodburn, W. S., Glasgow	...	...	2	2	0
Woodhouse, A. S., London	...	...	10	10	0
Woodhouse, H., „	...	...	5	5	0
Woodhouse, R. H., „	...	...	1	1	0
Woodruff, W. H., Leamington	...	...	1	1	0
Woods, W. L., Calcutta	...	...	3	3	0
Wormald, S., Stockport	...	...	1	1	0
Wright, T., London	...	...	1	1	0

Contributions will be received by the Treasurer, 13A, George Street, Hanover Square, W. It is particularly requested that all corrections be forwarded without delay to the Hon. Sec., Mr. A. Hill, Henrietta Street, Cavendish Square, and that correspondents will sign their names LEGIBLY.

Miscellaneous.

PRESENT NEEDS OF THE DENTAL PROFESSION.

By "NEMO."

Most of the readers of the June issue of the 'Dental Journal,' must have been, like myself, not a little amused at reading an effusion under the above heading, which the writer (for some mysterious reasons best known to himself) does not care to acknowledge by appending his name; indeed, so

modest is this would-be champion of Dental reform (?) that he even scorns the subterfuge of a *nom de plume* thereby giving rise to a dark suspicion at first that the article in question was penned in the Editorial sanctum; but let me hasten to add that a mere cursory examination of the subject-matter was sufficient to dispel the illusion, and to occasion the withdrawal of a charge so uncharitable.

The modest gentleman in question has set himself the task of attempting to educate us with regard to the constitution and sphere of action of the New Dental Association, some of his propositions being both original and startling. He commences with an insinuation, which is grossly inaccurate, to the effect that the late meeting of the profession at Willis' Rooms was composed of a *favoured few*, who received intimation of such meeting; and asserts that the Reform Committee *resolved themselves* into an association to put the profession in order. If he is in the habit of reading the Journal, which he makes a medium for the conveyance of his unique opinions, how is it that his eye escaped the prominent invitation to *every* member of the profession? Had he been present at that meeting he would not have fallen into the error with regard to the appointment of a Committee for drawing up a scheme for the Association, and any misunderstanding with regard to the power vested in those gentlemen would have been quickly dispelled by the lucid explanations of the Chairman.

We are next led to the question of eligibility for membership of the Association, and the bare idea of debarring men who advertise and exhibit show cases seems to infuriate this friend of reform. Perhaps the reason is not far to seek, for in his next sentence he says: "It occurs to me that ninety-seven per cent. of the very many good Dentists in the profession possess show cases, as also advertising in some shape or another." If this be true, I for one would rather be left out of the noble army of *good* Dentists marshalled by our nameless friend, and be contented to be for ever reckoned a mere "nobody," modestly standing aside to gaze with awe and admiration upon the rapid advancement of the professional status of the British Dentist under the efficient guidance of the gallant band who supply an appreciative public with "our guinea set of prize medal mineral teeth, warranted for mastication, articulation, and life-like appearance; no extra charge, gums and palates included."

How can this disciple of the St. Martin's Lane School dare to thus openly calumniate the profession, by an assertion as untrue as it is sweeping? He would, if possible, convert our New Association into a veritable Pandemonium, where the

respectable practitioner must needs take part in the farce of fraternising with the miserable charlatan whose only recommendation is his gaudy show-case with its strange conglomeration of gilt and gums, tinsel and teeth. Why, the thing is impossible; and even if feasible, it must needs prove its death blow, for incompatibility of this description could never produce harmony of action or sympathy of ideas. No, our profession, thanks to the Dental Reform Committee and those who supported it, is just now beginning to hold up its head and assume a more widely recognised status as a branch of the medical profession; it has its prestige and honour to maintain; and shall we ask the Association which is about to be entrusted with the care of such vital interests, to admit indiscriminately within its portals, any and every man who chooses to call himself Dentist? I trust that each member of the Committee lately appointed will emphatically say No, and that the answer will be re-echoed by every respectable practitioner throughout the country. Let it by no means be thought that I advocate the admission of licentiates only, for I am fully aware, and rejoice in the knowledge, that there is a very large class of gentlemen, who, although non-diplomaed, are able and creditable members of the profession; men, who would scorn to sacrifice their integrity for pecuniary considerations, whose worth is appreciated by those who seek their assistance, whose reputation is secured without the aid of the delusive show-case or the puffy advertisement. But I also blush to think that there is also another very large class which assumes the title of "surgeon Dentist," and takes care that an ignorant public shall be continually reminded of their existence by expedients which are as artful as they are unscrupulous, whose mischievous career is at its zenith, who have reaped a richer harvest than they will ever reap again. It is true that under the Dental Act all are found together as a homogeneous mass in the same register; the skilful operator and the bungling molar-jerker side by side; the conscientious practitioner shoulder to shoulder with the unscrupulous charlatan, a motley array of very widely differing characters; for however undesirable, in one sense, it was still necessary that this great levelling in the eye of the law should take place; but here all similarity begins to fade away, great disparities appear on the scene, and every honorable man feels bound still to maintain the integrity of his calling, even at the expense of setting his face against men who may *legally* lay claim to the much abused name of Dental surgeon. I do hope that the roll of the British Dental Association may never be sullied by names calculated to bring the slightest dishonour upon it, and that the conditions of admission may

be at least as stringent as those pertaining to the Odontological Society.

There is one point which I cannot pass over without comment, and that is the fact that this very anonymous gentleman, although he in canting phrases condemns "sneering," and preaches "courtesy," yet seeks to sneer at and cast a slur upon the English diploma (and necessarily the honorable College which grants it), by imputing mechanical incompetency to its possessors. The charge, coming from the source it does, is too trumpery to need more than passing reference; but I would respectfully submit that this advocate of "*forbearness*," moderation, and generosity, would be in a better position to prove the sincerity of his professed principles were he to abstain from attacking a diploma from which the Dental profession has reaped an incalculable amount of good, and which has stimulated education to a degree which will be better appreciated in days to come.

The last point we are asked to consider exhibits an amount of *naïveté* which cannot but provoke a smile. Can the writer be really serious in supposing it possible for the profession to have their "materials classified," and "a standard scale of fees arranged?" The idea is so inexplicable to me that I fancy he must be either poking fun at us, or writes with but little thought as to the principles involved in his suggestion. He makes a gross error in supposing the services of solicitors and Dentists as being of a similar character, indeed, he might almost as well have maintained that because "Cockle's pills" are vended at a certain figure, so teeth should be advertised at so much a dozen. If medical men have found it neither feasible nor desirable to attempt any classification of fees, surely we have no need of any such system. The fact that medical and Dental quacks (and their name is legion) have resort to such practice is a sufficient argument against it, and, far from its "raising the Dentist into more honorable repute," would ultimately drag down the profession to a level even lower than that to which its present advocate appears to have attained.

JOSIAH BACON—THE GOODYEAR VULCANITE RUBBER COMPANY.

(From the 'Stockholder.')

THE murder, as it is believed to be, of Mr. Josiah Bacon, at the Baldwin House, San Francisco, has called out interesting statements in regard to the Company of which he was

the most active officer, and of the invention of which it has so long held the monopoly. The Goodyear Dental Vulcanite Company is a corporation necessarily known at every point in the country wherever Dentistry is practised, and as its treasurer, Bacon was a man known personally and by reputation in all parts of the country. Of striking personal appearance, he was noted for a lack of anything like personal fear, for steady adherence to purpose, and immovable determination to gain his end, whatever might be the consequences. His work has been to sustain the "vulcanite patent," concerning which there has been almost endless litigation, fighting the enemies of extension at every point, and with wonderful quickness, making the warfare aggressive when there was a stronghold of law or precedent to be captured. In this special department of business, that of collecting royalties for the use of hard rubber or vulcanite in making plates for false teeth, he confronted the opposition of the 10,000 Dentists in the country by exacting from them sums of money which they are legally bound to pay under judgment of court, but which were, nevertheless, generally regarded by them as unjust and extortionate in character. A bitter feeling of enmity against Bacon was thus engendered, intensified, doubtless, by the persistent and uncompromising spirit of the man. To gain his objects and the ends of the Company, many hundreds of suits have been brought against those who refused to pay the licenses required as royalties. "Many men," avers one Dentist, "have Josiah Bacon's proceedings worried into the grave."

When the old Goodyear patent expired by limitation, there was a general rejoicing among the practising Dentists of the country, who believed that henceforth they would be freed from paying royalty for the use of the hard rubber for plates. It was in the application of rubber to Dentistry that the great majority of practitioners expected to find most extensive business. The use of rubber does not require such special knowledge as of gold and silver in Dentistry, while it was obvious that the general public would prefer to buy rubber sets, at a cost not exceeding \$10, to those made of the more expensive metals. But by a brilliant move, executed by Bacon, the tables were turned upon the Dentists, and the exaction of royalties was continued. It is said that Bacon was accustomed to keep records of conversations he had with Dentists from time to time (and his works carried him all over the country); that he afterwards made use of these transcripts as "true records" to all intents and purposes in bringing his suits. No man had better facilities for knowing the extent of the business of Dentistry than he, and no man

knew better how to turn to advantage the information received. In the ordinary course of business, in ordinary times, it was easy to ascertain from the books of a Dentist, or from the amount of orders given for material, how much royalty was paid in individual cases. From the data thus obtained it is easy to see how a schedule of rates could be arranged, and Bacon, with his usual sagacity, devised, it is said, a grade tariff, varying from \$60 to \$600 a year royalty. One great cause of complaint seems to have been that this tariff was adhered to, once fixed, without regard to falling off in business or other change in the affairs of the practitioner. If the licence fee asked was refused a suit was brought, and oftentimes it seems to have been compromised, the Dentist paying the fee asked as a matter of economy.

Individual efforts to resist the royalty failing, the battle was taken up by the Celluloid Company. The record of the war between these two corporations is one of the most interesting in legal history. Carried to the Supreme Court of the United States, on appeal from the Circuit Court of Massachusetts, the long litigation regarding vulcanite was settled in favour of the validity of the patent, but it was by no means a unanimous decision. The minority of the bench, Justices Bradley, Miller, and Field, agreed that the application for the patent in 1864 was new and independent, and should be treated as such, and as the public had enjoyed the use of the invention for more than two years previous to this application the patent should be declared invalid. Their opinion met the hearty approval of thousands of Dentists when it declared that the levy of a tribute on those Dentists who had brought the plate into public notice would be a species of injustice. But the decision of the majority of the judges being against the contestants, the grievances were only intensified by this minority opinion. Bacon never hesitated to speak of the immense revenue gained by the royalties obtained, thus adding to the general feeling against him, and especially since the dulness in business began. Bacon was once in business in California, and acquired with readiness the bold and undaunted methods in vogue there. About a year since he went to California to press, in his usual way, collections of licence fees and royalties. After his return Mr. Caduc, an agent of the Goodyear Dental Vulcanite Company, was in San Francisco, and was there told that if Bacon came out again to institute suits, as he had threatened to do if certain Dentists did not pay up, he would be shot. Caduc told Bacon of the threats, but the latter, with other officers of the company, gave the matter little or no attention. Mr. Bacon left Boston, March 18th, intending

to go to San Francisco to press the collection of royalties from a large number of debtors, including some forty Dentists, whom he would have to sue in order to get his money. He stopped in Cincinnati and Chicago on the way, and arrived in San Francisco about the 1st of April. The company received various despatches indicating that collections were very difficult. The tidings of his death greatly startled his business associates. Orders were sent for his body to be embalmed and sent to Boston.—*Johnstons' Dental Miscellany.*

SOCIÉTÉ SYNDICALE DES DENTISTES DE FRANCE.

(Communicated.)

ENGLISH and American Dentists visiting Paris often wondered why no odontological societies existed in the French metropolis, and yet this want of *esprit de corps* could of a surety not be ascribed to a paucity of members of the profession, for, perhaps, no city exists in which so many Dentists have settled; in fact, in some streets the plate of one of our *confrères* shines on nearly every door. The reproach of neglecting his professional brethren, and living in utter seclusion, can no longer be launched against the Parisian Dentist. Thanks to the efforts of a few determined men, our neighbours across the channel can now boast of a Dental society ("Société Syndicale des Dentistes de France") numbering nearly 200 members. We hear with pleasure that demands for admission are pouring in, and, besides, some of the members of this zealous "groupe" have started a new free and independent journal called the 'Gazette Odontologique.'

This paper has lately become the official organ of the Society, and will be edited by the President and Council, with the support of many of the members, who have undertaken to supply the necessary literary and financial contributions. It might have been supposed that the members of the Dental profession in France, who had so long refused to contribute towards the formation of any odontological society, would have allowed the election of the president, vice-presidents, secretaries, and council to take place with apathetic indifference; on the contrary, the first two meetings were, to say the least, very stormy.

The fifteen members proposed (and afterwards elected) had the reputation of being rigid disciplinarians and observers of professional etiquette, and were, as a matter of course, opposed by those who were rather lax in their views. A violent effort was also made to exclude foreigners from the

council, although only three seats out of fifteen had been allotted to them. The *elite* of the society most courteously backed up the foreigners, and Messrs. Mordaunt Stevens, Crane, and Michaels were elected.

Our readers must remember the large number of English and American Dentists practising in France. Dr. Andrieu, author of a work 'On the Diseases of the Mouth,' and Dentist to the Parisian hospitals, was elected president.

Drs. Richard and Amyot, vice-presidents, Dr. Mordaunt Stevens (one of the old house-surgeons to the Dental Hospital of London) and Dr. Colignon secretaries, and Dr. Chretien treasurer. Amongst the council the names of Messrs. Crane, Goldenstein, Brusseau, Gaillard, Weisner are well known on this side of the Channel. Once elected, the president and council entered upon their duties with determination; they have already launched their journal, which has proved a great success. We hear that Dr. Mordaunt Stevens has resigned the editorship of the '*Progrès Dentaire*,' having been requested to become one of the editors of the '*Gazette Odontologique*.' Finally, they are studying a Dental law for France. We trust that they will be as fortunate as we have been, and we wish them every possible success.

HONOUR TO WHOM HONOUR IS DUE.

By W. A. HUNT, Esq., L.R.C.P. Lond., &c.

THE forceps figured at page 334 of the Journal for June last are most valuable instruments for extracting under molars; but Messrs. Ash have omitted to state that the profession is indebted to Mr. Evrard for the pattern. He constructed this form of forceps nearly five years ago for me, embodying some of my own suggestions; but there are many valuable points about the instrument that I was entirely indebted to Mr. Evrard for.

Capacious jaws large enough for any tooth, but yet closing so that a temporary molar might be extracted by them.

A simple, small, yet wonderfully strong joint, which is so constructed that the forceps can be widely opened, even if it is not possible to open the patient's mouth say more than half an inch. They have a good concavity behind the joint, so that the working motion for extraction can be freely carried on without interference from the *upper* teeth.

They can always be used for the first and second, and, *generally*, though not always, for the third molar.

The instrument has several other good points about it,

and is so small that it can easily be carried in the waistcoat pocket. I have used it with the greatest satisfaction ever since I had it, nearly five years ago; and I feel sure that Messrs. Ash are doing the profession a service by bringing this instrument under their notice; at the same time I feel that Mr. Evrard, as the *parent* of these forceps, must not be forgotten, and I should be ungrateful if I did not tell him the history of their birth; for I was present at their delivery.

Yeovil.

NICKEL PLATING.

A NEW process is announced by Prof. Stratbo, said to be both simple and effective. To a solution of five to ten per cent. of chloride of zinc, add sufficient nickel sulphide to give it a decided green colour. Keep the solution boiling hot and suspend the articles to be plated in it for half to one hour using a porcelain or enamelled iron vessel.

I have not yet tried the above, but should imagine that it is designed only for brass or copper articles. It is doubtful whether an adhesive coating of nickel can be obtained on steel or iron by any simple process without a battery.—THOS. FLETCHER.

MR. FLETCHER'S "PERFECTED LADLE FURNACE."

MR. FLETCHER has discovered another new gas burner of a most simple and effective nature, which he styles a "solid flame burner," and says it has "no equal in power and intensity of flame, and is perfectly adapted for every purpose, from the smallest to the largest, the same burner working equally well with any gas supply from 1 to 80 or 100 feet per hour, giving a perfect solid flame under all conditions." These burners are formed of a tube of thin iron from 1 to 3 inches in diameter, in the side of which, near its extremity, is inserted a piece of iron wire gauze, over which the flame is lighted. The other end of the tube is open, and here a small gas jet enters, carrying with it a stream of air; these mix in the tube before passing through the gauze for ignition. Nothing could possibly be less complicated.

NEW NERVE PASTE.

THE DENTAL MANUFACTURING COMPANY have a new preparation for the destruction of nerves, which they affirm, if properly used, will give satisfactory results without pain.

There is a paste and a fluid in a bottle, the former for destroying the nerve, and the latter for allaying pain should it occur, although in the one bottle they do not mix. When we have more fairly tried this compound, we shall hope to report more fully as to its merits.

NEW GUTTA-PERCHA FILLING.

THEY have also a new white gutta-percha filling, which is intensely hard, more so than any gutta-percha filling we have previously used. Its facility for working is very great, as it is plastic at a low temperature, after having been softened at a rather high one, and gives the operator plenty of time to work it. As a permanent filling we can of course say nothing of it as yet, but as a non-conductor of heat, and therefore a valuable temporary filling for sensitive cavities, it has proved itself thoroughly satisfactory during the limited time we have had experience with it.

OUT-DOOR EXERCISE.

THIS is frequently neglected by Dentists, and as a class, perhaps, more than by any other professional men. It is certainly a mistake to suppose that this neglect does not leave its mark both mentally and bodily. The bicycle riders who are Dentists are by no means few; in fact, I believe there are some hundreds. As an old bicycle rider I am disposed to think this means of locomotion is objectionable for one strong reason, *i. e.* the liability to mechanical accidents which at once put a stop to one's income. I have been thrown head first into a thorn hedge, thereby seriously reducing what little beauty I possessed, and I have known many cases of accident incapacitating from work for some days or weeks. It is not that the accidents themselves are anything serious, but the fact that they do not pay and are unpleasant. I have felt this for some years, and have at intervals tried different tricycles, coming to the conclusion that they were one and all tremendously hard work. Recently, however, a friend lent me a Bayliss and Thomas tricycle, which to my great surprise carried me easier and at a greater speed than the bicycle ever had done, and now the fear of further spoiling my beauty with thorn hedges has departed. As a means of outdoor exercise I do not think this machine can well be improved on. If a shower comes on, take your umbrella out of the holder, open, put the handle in your vest pocket and button your coat over the

stick. You can wander ten or twenty miles every evening, wet or fine, at peace with all the world, EXCEPT WHEN SOMEBODY HAS BEEN LAYING NEW MACADAM.—T. F.

ANÆSTHESIA BY ADMINISTRATION OF PROTOXIDE OF NITROGEN UNDER PRESSURE.

M. REGNARD has reported to the Biological Society a third operation, performed under M. Bert's method of anæsthesia by protoxide of nitrogen under pressure, to which we have before referred. The case in question was one of resection of the superior maxillary nerve. It was performed by M. Péan in twenty minutes, without the patient having suffered and without any sort of accident. He, however, awoke for an instant during the course of the operation, but the cause of this accident was palpable. In consequence of the position in which the incisions had to be made, the mask which is usually employed for the inhalations could not be applied. Thus, the mechanism for administration being imperfect, a simple tube carried the gaseous mixture into the mouth, and the assistant closed the nostrils in order to prevent the patient from breathing pure air. The short awakening mentioned occurred then, whilst the assistant, having his attention drawn off, had left the nostrils open. As soon as they were again closed, the anæsthesia was again perfect. There was here, then, only a defective apparatus, which the want of time alone prevented from being remedied, but which was easily corrected.—*British Medical Journal*.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

IN view of the coming examinations of this body, it may be well to mention that a statement is required of all candidates for the Dental Diploma, whether they have advertised since August, 1878; and that a Declaration must be signed by all obtaining the Diploma that they will abstain from advertising, and will not allow their name to be associated with those who do so.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the last issue of your Journal, in the column devoted to Miscellanea, you make a suggestion respecting the durability of celluloid, after which you state that it has borne the test of *six years'* wear without "ANY DETERIORATION." I think it is fair to suppose, after that length of trial, without *any sign* of becoming worse, that it HAS borne the test of time, *six years* being (in my opinion) a fair test of its *durability*. My reason for calling your attention to your remark is to add my testimony to the (so far) perfectly successful results obtained with celluloid during a period of nearly six years. At first I must confess I almost determined to discontinue its use on account of the difficulty of manipulating it. Press after press came to grief because of the enormous strain, during the closing of the flasks, through the celluloid not reaching a sufficient heat to render it plastic. Then steam came into use. This was certainly a move in the right direction, but unfortunately the thermometer proved but a treacherous ally in the working, and many times the operator's patience has been tried to the extreme by finding, on opening his flask, that the piece was porous and spoiled, through the temperature having suddenly increased in the boiler without a corresponding increase in the height of the mercury in the thermometer, so giving the operator no notice of the change going on in the boiler. Thus *steam* seemed but a poor improvement on oil, glycerin, &c. When, just as celluloid seemed, on account of the difficulty of working it, about to be *finally* CONDEMNED, the Dental Manufacturing Company brought out their "perfect" apparatus. This machine I have used daily since its advent, and, I am free to confess, with *never-varying success*. By its use all the difficulties in the working of celluloid vanish. I can fully endorse the unqualified praise you have bestowed on the gas-regulating pressure gauge used in connection with the apparatus. Nothing better can be desired; for, as the Dental Manufacturing Company state in their circular respecting the apparatus: "It is impossible to spoil either celluloid or rubber by overheating if the gauge has been properly set. I have used, I believe, nearly every apparatus introduced for moulding celluloid, and have no hesitation in pronouncing

the Dental Manufacturing Company's the very best. I have written this letter with the desire to encourage those of my professional brethren who have discarded celluloid to try it once again, and feel sure the apparatus before mentioned will cause them to class celluloid as one of our best bases for mineral teeth.

In conclusion, I may add that the apparatus is equally successful with rubber, causing it to be turned out after vulcanizing an entirely different article from what we have been accustomed to, the uniformity of heat being, doubtless, the cause of the change, rubber cooked in this machine being more like horn than vulcanite.

Those Dentists who have been at times troubled with porous cases will find it an effectual remedy.

I could (and feel inclined to) further enlarge on the inestimable boon it is sure to become, but fear to encroach further on your valuable space.

I am, &c.,

MECHANICAL DENTIST.

To the Editor of 'The British Journal of Dental Science.'

SIR,—In the last issue of your Journal you refer to the durability of celluloid, and say "that if celluloid will only stand the test of time, and it has been in use over six years without any deterioration, we are certainly on the eve of a revolution in mechanical Dentistry." My object in writing to you is to add my testimony to its usefulness. I have worked it for about six years with varying success, and though it may never *entirely* take the place of rubber, yet, if worked with a suitable machine, it will be found of very great service to us. I say suitable machine, because my failures in manipulation were due to imperfect moulding consequent upon irregular or insufficient heat. I find steam by for the best medium, and for the last eight or nine months, since I have used one of the Dental Company's Patent Vulcanizers, have had no failures worth recording. I find even rubber is very much improved by being moulded under the steam heat, and more especially since I have been able to ensure evenness of temperature. The perfection to which rubber can be brought in a machine of this kind, in my opinion, very much alters its value as a material for dentures, yet we must all admit the advantage celluloid possesses in colour.

I am, &c.,

DENTIST.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Having read the report of another class of apparatus for celluloid, which was exhibited at the last meeting of the

Odontological Society, I am induced to give my experience of the class of apparatus which has given the best results, and I believe it will be impossible to improve upon it. I allude to the Patent Safety Combination Vulcaniser and Press, as supplied by the Dental Manufacturing Company.

I commenced using celluloid in 1871, and some of my earlier trials were failures. I have worked it under the various systems of oil, glycerin, and dry heat, and with the latter have had the worst results. The machine I have been using for some time is that made by the Dental Company, and since the introduction of their Gas Regulating Pressure Gauge have discarded the uncertain thermometer. I found that the slight fluctuations which will occur to all gas burners prevented my getting uniform results in the tenacity of the celluloid, but since I have used the Gas Regulating Gauge my results in that respect are perfect.

It is my opinion (and I should like to know how far it is borne out by the experience of others) that celluloid should be left under pressure for some hours after it is moulded. My cases in the mouth have been far more satisfactory since I have adopted the recommendation of the Dental Manufacturing Company and used their clamp arrangement.

I find celluloid combined with gold or platinum makes very serviceable cases, and as I have found advantages from its use superior to vulcanite, it will be interesting to hear the opinions of others. No doubt the great secret of success is the *modus operandi* of working.

I am, &c.,

NIL DESPERANDUM.

June 25th, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Perceiving in the June number, 1879, an improvement in White's operating chair, I beg to inform you that I have anticipated him by four years, and have the testimony of three engineers to prove it. My improvement is this—My chair stands on the top of a ball-and-socket joint, which joint rests in the centre of a cast iron hollow pillar eighteen inches high; at the bottom of the pillar is a flange, two feet wide, which steadies it on the floor; the top of the pillar is a foot wide, and in its centre is the ball-and-socket joint. The socket has a steel piston in its bottom, which is moved by a strong spiral spring and treadle or lever, which is moved by the foot till the chair is placed in proper position; then the foot is raised half an inch and the spiral spring shoots the steel piston into a hole, or any hole in the bottom of the ball the position of the chair may require, and there the chair is held

well, along with the ball-and-socket joint. In the pillar is a rack and pinion, in a chamber at one side, which will lift the ball-and-socket joint, chair, and all apparatus one foot. Now, the decided advantages of all this is—first, that the chair can be turned to any point to suit either the operator or person in the chair, or to suit any window in the room. It can be made a foot lower or a foot higher, as may be required. There is no frame or no legs in the way of the Dentist, and nothing to get out of order, as all the mechanism acts *on the* or in centre of the pillar, which pillar is concealed from view by the curtain or valance which fall from the seat of the chair, as the seat of the chair is screwed on the top of the ball. The ball cannot fall out of the socket, as it is held there by a collar placed above its centre, which keeps it always in the socket in its place.

I hope the Editor will excuse my troubling him so, but as this is the first time I wrote for the Journal, I was not able to make it practical and concise at the same time; but I wrote it so as to give him room to improve it.

The reason I was prompted to make the invention was the frequent accidents White's chair was meeting with, and the impossibility of having it repaired at so long a distance from London. And therefore, if a chair on that plan is a boon to the profession—and such a boon as to bring them all the way from America—I hope the Editor will be so good as to let the profession know that as good, if not better, plan can be made at home at any of the Dental depôts, because I will be only too happy to send them the working drawing of it in case they should like to encourage home manufacture, and not let all things go to Yankeeland, for I think they are getting more than their share this some time past.

I am, &c.,

H. S. RYDING, L.D.S.

Lower Glentworth Street, Limerick;
June 23rd, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your last issue you refer to Winderling's apparatus for working celluloid, and promise us drawings of it in your next issue.

Having used one of those machines I venture to give my experience, as it may prove of service to those entering upon the use of celluloid.

In the first place I believe dry heat to be a failure because, in spite of close attention, the heat *will* rise beyond the temperature required, and if it does not result in an exploded piece will cause that variation in the character of celluloid

as to give lines of different colour, or what might be termed a wavy appearance.

I have not found this to occur with any pieces moulded by steam, and I find by the steam process the celluloid is much tougher, owing, I suppose, to the uniform heat it is subjected to in the vulcanizer.

I saw a case this morning that I put in the mouth four years since, and it is all I could wish. I shall, therefore, continue with my steam apparatus. Yours, &c.,

CELLULOSE.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I cannot allow the remarks of a correspondent in last month's Journal to pass unchallenged—"The Present needs of the Profession." I must use the title, as, for reasons best known to himself, he does not sign his name; however, his aim seems to be to uphold show cases and puffing advertisements. Might I ask—Did it ever occur to him to try a few years without? I can testify that instead of the income being any less, on the contrary, it would increase threefold. Let the brass plate be the standard raised for each respectable member of the profession, and the Dentist will not be held in such contempt by the outside public.

Again, I would ask—Does a surgeon expose sections of anatomy at his private entrance to tempt the passer by? No! I must tell him I like "Drareg Kcalb's" sentiments far better, and do not fear but the British Dental Association will uphold the honour of the profession simply and not private interests.

I am, &c.,

H. LAURENCE, L.D.S.I.

To the Editor of the 'British Journal of Dental Science.'

SIR,—What I want to be quite clear about in the New Registration Act is this:—Can jewellers register as Dentists who have been practising as such before the Act and still continue to practise each separate business or profession?

Again, can jewellers who are unregistered take Dental work and repairs from patients?

I know several jewellers who practise upon the public as stated, and my humble opinion is that it should be put a stop to, as I do not consider it the thing that a Dentist should engage in another business or undertaking at one and the same time.

I am, &c.,

A DENTIST.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., BEFORE THE TWENTIETH day of the month, and duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :

Twelve Months (post free) 13s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of thirteen (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
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ANSWERS TO CORRESPONDENTS.

FAIR PLAY.—The paper in question is beneath notice; were we to take cognizance of all the misstatements it contains we should have to write a volume.

- A. B. C.—After all the years through which we have opposed advertising we are not inclined to begin now to allow the insertion of letters pleading in its favour.
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Communications received from Messrs. S. Ryding, H. Lawrence, — Pierre-pont, Chas. Matthew, Dr. J. W. Longmore, Thos. Fletcher, W. A. Hunt, — Merson, Eugene Duval, "Mechanical Dentist," "Dentist," "Fair Play," "Nil Desperandum," "Cellulose," "A Dentist," "A. B. C."

BOOKS AND PAPERS RECEIVED.

- 'English Mechanic and World of Science.'
- 'North British Daily Mail.'
- 'Transactions of the Odontological Society of Great Britain.'
- 'Lancet.'
- 'Medical Times and Gazette.'
- 'British Medical Journal.'
- 'Pharmaceutical Journal.'
- 'Journal of the Chemical Society.'
- 'Gazette Odontologique.'
- 'Le Progrès Dentaire.'
- 'Correspondenz Blatt.'
- 'Transactions of the American Dental Association.'
- 'Daily Courier.'
- 'Giornale di Corrispondenza pei Dentisti.'
- 'Johnson's Dental Miscellany.'
- 'Monthly Review of Dental Surgery.'
- 'The Dental Cosmos.'

British Journal of Dental Science.

No. 278.

LONDON, AUGUST, 1879.

VOL. XXII.

Dental Surgery and Medicine.

ON THE RETENTION OF UPPER PLATES BY ATMOSPHERIC PRESSURE.

Abstract of a paper by W. A. HUNT, L.R.C.P. Lond.

I HAVE no startling novelty to bring before you, no royal road or easy method that will invariably bring success. I would point to apparently little details, insignificant minutiae, which I consider must be studied, and are essential to success. Experience has shown me certain points which I would lay before you, and in so doing derive benefit by having them discussed afterwards by you, or perchance, I may be able to impart useful knowledge to some.

I will not trace the history of utilising atmospheric pressure; inventive America claims this honour in the person of James Gardette, of Philadelphia, who was not living when Harris brought out the 3rd edition of his large work on 'Dental Surgery' in 1848. Koecker, in 1835, in his work on 'Artificial Teeth,' points out cases in which "he kept upper sets in their place by capillary attraction and suction," and the words he uses point to the accuracy of his observation, for capillary attraction is certainly largely present where the fit is accurate, although it is often forgotten or ignored, whilst we hear a great deal about what is vulgarly called "suction." The existence of adhesion between solid and liquids is well known, and in the case under consideration an accurate plate adheres strongly to the thin layer of liquid (consisting of mucous and saliva) which lies between it and the lining membrane of the palate. This thin layer of liquid adheres in a similar manner to the living surface, and thus the adhesion chain connecting plate with palate is completed.

If two pieces of plate glass with parallel faces be placed in a shallow vessel containing ink, with two of their vertical edges in contact, and slightly separated at the opposite edges, the ink will rise by capillary attraction between the glass plates, the height of the column being inversely as its distance from the angle of contact between the plates. The cause of

the rise of the liquid is the adhesion between its particles and those of the glass; the limits to the rise are the action of gravity and the force of cohesion among the liquid particles.

The retaining power of capillary attraction is, therefore, in inverse ratio to the distance between the plate surface and the living surface.

Liquids rise in vertical fine glass tubes in spite of gravity, but all liquids do not rise to the same height in glass tubes of equal diameters; but a relation is observed between the specific gravity and the height. Thus, water as unity or 1 will rise $\frac{6.04}{1000}$ inch, while ether, of which the specific gravity is .737, will rise but $\frac{2.13}{1000}$ inch, or $\frac{1}{3}$ rd the height of water. So in the mouth, if the living surface is covered with thick mucous, capillary attraction is much stronger than that where only a watery saliva connects plate and living surface.

One is accustomed to regard a vacuum as an empty space, such as nature abhors, and into which air will at once rush until equilibrium is established. In a plate that fits well at every point, where, I ask, is the vacuum? and if no vacuum, what becomes of the theory of atmospheric pressure? This capillary attraction, I conceive, holds the plate in position when everything is in a state of rest. But we are far more concerned to retain the plate in position during the acts of mastication, speech, &c., and here the atmosphere comes to our assistance. Any movement of the plate produced by muscular action, slightly draws the plate from the living surface, diminishing capillary attraction and forming a vacuum; the edges of the plate fit well against the soft parts and prevent air entering anywhere, and atmospheric pressure quickly drives the plate again into close juxtaposition with the living surface, and capillary attraction is again established. Such is my theory, and therefore I maintain that Koecker was right, so long ago as 1835, in putting capillary attraction first, and atmospheric pressure second, among the causes for the retention of what are called suction plates.

Fifty years ago, a Dentist named Gray constructed such plates. He was a member of the Royal College of Surgeons, and laboriously carved them from large pieces of hippopotamus' teeth. This was possible only at the hands of a few, and as the work had to be executed in bone, or by stamping gold plates with the means then known, it was probably not often done successfully. But while we have such improved methods of modelling from the mouth, of making accurate gold plates, and lastly, such an easily worked base as vulcanite, is it not simply disgraceful to see such statements made as the fol-

lowing?—that two firms in London alone supply 26,000 pairs of springs annually to various Dentists.

Before building let us be sure of our foundations; with a tray the best adapted for the mouth, I draw a good Godiva model in all cases, and then from it construct a special tray in the following manner:—The plaster model is first uniformly covered with a thin sheet of wax, except for $\frac{1}{4}$ inch, where the posterior edge of the denture will rest. From this so covered model a zinc plate is prepared, covering the entire area the plate is ultimately intended to cover. With the punching forceps holes are made in all directions, and a stout handle is soldered on in the median line. Such a tray will take an accurate model in plaster of uniform thickness; if the thickness is not uniform the expansion of the plaster in setting will relatively be more in the thick places than in the thin. The patient is now put in an erect position, with the head back and a mouth basin in his lap. I use the finest plaster procurable and keep it in a large, wide-mouthed, stoppered bottle, that I may always work with plaster, the setting properties of which I am familiar with. I put 3iss of spring water, with the chill just off, in a well glazed china teacup; then putting in plaster in small quantities until I see it in a dry condition over the whole surface of the water, I stir well until it is intimately mixed, taking great care on this point; then throwing in as much common salt as will stand on a fourpenny piece, I stir it again for a few seconds, rapidly cover my special tray, and then quietly and deliberately put it in position in the mouth, the centre of the tray a little in advance of the corresponding part of the palate; then a rapid side-to-side motion will bring the plaster well up over the buccal alveolar processes. Pushing the tray backwards until its centre corresponds to the centre of the palate will bring the plaster well over the front alveolar border. Then drawing the tray slightly away vertically, I put my forefinger in its centre and press it well home; this withdrawal, followed by pushing it well up again, ensures the plaster being carried accurately by atmospheric pressure well over the alveolar border all round; at the same instant I request the patient to flex the head well over the basin; the posterior edge of the tray going close to the mucous membrane prevents the plaster from dropping away from this important point, and rather hinders the patient being distressed by overflow. This position also prevents the plaster from drooping, as its gravity will rather carry it into closer relation with the mucous membrane, and should there be overflow it will be forward towards the basin rather than towards the throat. The alveolar border, if very

prominent, can now be inspected with the mirror, and if there is deficiency of plaster anywhere, it can at once be made good by adding more from the cup with a curved ivory spatula wherever needed. Thus we shall have as accurate a model as possible. I let it set well before removing it.

The cast is now painted well with a solution of potash soap in which a little rouge has been mixed, and then put under a stream of water, taking care that no delicate depressions are filled up with soap. The model as soon as it is properly set is taken apart. This process I prefer doing myself rather than entrusting it to any assistant.

I must assume that the operator has a good under set of teeth to antagonise, either natural or artificial, and has obtained a perfect articulation, as these points, however interesting, are not the subject of my paper. I may here state that I regard suction chambers, suction discs, and valves, as needless, and simply used as counterpoises to bad fits and as makeshifts beloved by the incompetent; although I admit that on this point men who are competent to judge have differed in opinion for the last twenty years or more.

I now examine the mouth and decide how far the edge of the plate shall extend posteriorly. I am anxious to cover as large an area as possible, and, therefore, in most cases, should make the posterior edge of my plate correspond with the posterior edge of the palatal bones. But I have noticed that in some mouths the soft palate seems to spring from the under portion of the palatal bones, a little in advance of their posterior edges, and possibly the aponeurosis from the *tensores palati* are also inserted more anteriorly than in some; at any rate, the soft tissues are brought by muscular action against the edge of the plate, and they become sore and indented in consequence, and sometimes they do not appear to touch the plate, being lifted up away from it, letting air in, and this action can readily be seen in yawning, when the soft palate is raised so far as to touch the posterior wall of the pharynx. In such a case the plate must not go back so far, especially in the median line, where the motion is greatest. Where the *maxillæ* and palate bones unite in the median line is an elevated ridge of bone thinly covered with mucous membrane. Corresponding to this ridge, on the model, I place a piece of pure lead plate, No. 9 in thickness, and about $1\frac{1}{4}$ inch in length, by rather more than $\frac{1}{4}$ of an inch in width, and with its posterior edge $\frac{1}{4}$ of an inch in front of where the posterior edge of the plate will rest. If the alveolar ridges feel soft and yielding, the lead is put of double thickness, and pinned down in position on the model.

I am now indebted to Folsom, of Boston, to his paper,

written ten years ago, for a particular method of grooving the model. Examine the mouth where the posterior edge of the plate will rest and note the hard and soft places; cut a groove in the model along and in front of where the posterior edge of the plate will rest, from tuberosity to tuberosity, $\frac{1}{10}$ th of an inch wide, deep where the mucous membrane is soft and yielding, and very shallow where it is hard, and in the median line hardly at all; in front a deep groove from canine fossa to canine fossa. Outside the lateral alveolar processes also groove the model, but not so deeply. Thus, a continuous groove will surround the model. This is called the Folsom groove. I now rapidly paint the model over with collodion flexile. The teeth can now, the bite being cast, be mounted in the ordinary manner. I, however, prefer to stamp a lead plate exactly the thickness I wish the vulcanite to be, place it on the model, and then mount the teeth; in this way one gets a plate of uniform thickness, and the lingual side, instead of having a smooth and slippery surface, imitates the real palate, rugæ are defined, and so forth, and the tongue has its usual *points d'appui*, a matter not to be ignored, and which your patient will appreciate.

Now let the denture be completed; vulcanise at a lower temperature and for a longer time than usual. You will then have a plate fitting closely all round its margins, without any rocking-horse movement on the median line, and where 14lbs. to the inch of air pressure ceases to be a mere theory.

There is another aid that I may claim as original, although other men may use it. In many mouths the alveolar process is much shrunk, and has to be well built up with rubber to support the teeth. The vulcanite surface all round towards the cheeks and lips is usually made convex, rounded, and smooth. I, on the contrary, make as deep a groove as possible, and $\frac{1}{4}$ of an inch wide if I can. At the sides the bellies of the buccinators fall into the groove, and in front the upper crescent of the orbicularis oris; thus these muscles, instead of being antagonistic, assist in keeping up the plate; indeed, I have seen an imperfectly fitting plate retained in this way by muscular action only.

I cannot pretend to such success as some men do, who assure me that they regard spiral springs as curiosities, and have not used them or had them in their possession for years; but I do think that we should learn much from each other if, instead of mustering all our *successes* to the bar of professional opinion, we brought our *failures* forward and frankly and honestly discussed them. I have looked up the last 200 cases of upper dentures, and I find that in 40 of

them I have used spiral springs. In some of these cases I know that with more care and labour I ought not to have used springs, but, on the other hand, there were cases in which, after doing my utmost, I failed utterly with capillary attraction and atmospheric pressure. These are cases, gentlemen, in which I shall be only too grateful if any of you can show me the reason why I failed, or point out to me the path of success.

Yeovil.

A CASE OF HYPERTROPHY OF THE GUMS.

By C. WHITELEY, Esq.

On looking through this year's Journals, I saw in the January number, in a report of the Odontological Society's proceedings, that Mr. Heath states cases of hypertrophy of the gums are so uncommon as to merit recording. I therefore send you particulars of the following case, which came under my care in February, 1876, and which, I think, will be of interest to your readers. I enclose photographs for engraving, of which I beg your acceptance, showing the first models taken, and the state of the mouth after extracting teeth, removing hypertrophied growths, and reducing alveolar border. I have the whole of the series of models taken during the progress of the case, which I should be happy to show any member of the profession who would like to see them. The following account I have taken from notes made at the time :

On February 27th, 1876, a young man called to consult me respecting his mouth. He had a peculiar appearance, his lips being very thick and projecting, and he was unable to close them; his speech was very indistinct, so much so that it was with difficulty I could understand him. On looking into his mouth it presented a most remarkable appearance, so that, although much engaged at the time, I at once secured models of his mouth, an operation of some difficulty, owing to the enormously hypertrophied condition of his gums, necessitating very large trays, which had to be extemporised at the moment, giving him an appointment for an early date, when I proceeded to thoroughly examine his mouth previous to deciding on the treatment I should pursue. I found the gums of a pale pinkish colour such as is sometimes seen in certain anæmic patients, with a curious glassy appearance, and so enlarged that the summit of the upper gum, which was flat, measured on the left-hand side one and a half inches across and the lower gum one inch. The palate was almost obliterated, so that it was impossible to touch the roof

with the tip of the little finger. On applying pressure a semi-purulent discharge took place around the necks of the incisor teeth of an offensive odour; the bicuspid were buried to the crowns in the gums, while the two posterior molars in the upper jaw were altogether out of sight. The gums appeared to possess but little vitality, and did not readily bleed when scarified; they were exceedingly tough and adhered to some of the back teeth so firmly that in extracting, after removing the teeth from the socket they had to be literally dissected out, as the gum would otherwise have torn away in large pieces, as it appeared to adhere down to the apices of the roots. The teeth themselves were scattered over the mouth in the most extraordinary manner, no two articulating. The first molar on the right of the upper jaw was a mere shell, with a polypoid growth springing from the pulp cavity, while the three fangs of its fellow on the left were buried under a large warty looking excrescence; these, with the exception of a lower molar root, which I did not discover for some time, as it was so deeply buried, were the only stumps, the remaining twenty-four teeth being fairly good. The following peculiarities were presented by the teeth, which had tartar on several of them:—They were large and the majority of them firm in the socket, some being by no means easy of extraction. One lower molar had three roots, one lower bicuspid two roots, while the two first upper bicuspid had three roots each. Unfortunately, having to administer gas and operate without assistance, the apices of the buccal fangs in both these teeth were slightly broken, the patient taking the gas badly, and being difficult of control while under its influence; the nerve canals are, however, distinct, as the fracture took place at the point where the fangs diverged. I believe it to be very exceptional for an upper bicuspid to have three roots, and have never met with one previously.

The patient was twenty years of age, cachectic, and anything but intellectual in appearance; he could not account in any way for the state of his mouth. His occupation was that of a gentleman's servant, and his indistinct speech and general appearance militated very much against his obtaining situations. The treatment I pursued was to remove by a series of operations the whole of the teeth (with the exception of the lower canine, which I retained as an anchorage for the lower denture), to pare away the hypertrophied growths, and excise such parts of the alveolus as I found necessary, mostly under the influence of nitrous oxide gas, using as a mouth wash a rather strong solution of chloride of zinc to remove the fetid smell, and, the latter part of the time, making free use of the tincture of iodine, together with fre-

quent scarification and general tonic treatment. At the expiration of four months, he having obtained a new situation and being very anxious for his case to be completed, I made him a suction upper, and a vulcanite lower attached to the canine before mentioned, which answered perfectly, and the marked improvement both in articulation, appearance, and general health, were very gratifying both to the patient and myself.

No recurrence of the growth had taken place when I last heard from him in March, 1878, since which time I have lost sight of him. Of course I am aware that under favorable circumstances the operations could have been completed in much less time and the alveolar ridges reduced still more, but, taking all the circumstances of the case into consideration, I thought sufficient had been accomplished, as the patient was enabled to go about his ordinary work without serious inconvenience the whole time.

The case was seen by several members of the profession while under treatment, and I had for some time preserved in spirits of wine the tumours and growths removed. Through the carelessness of a pupil the bottle was unfortunately broken, and when discovered they were all dried up. Seeing the report in the January number recalled the case to my mind. I therefore send you the particulars should you think them of sufficient interest to publish.

60, Margaret Street, W.

CASES IN PRACTICE.

By GEORGE ROBINSON, Esq., M.O.S. Gr. Brit.

THE accompanying case of irregularity in position of a wisdom tooth came under my notice on February 1st last.

Mrs. F—, about forty years of age, applied to me to have a right lower permanent second molar stopped, which she thought was the cause of great pain, which she had endured for three weeks. On looking into her mouth I observed a portion of the roots of a right second superior molar, the buccal wall alone being visible. Suspecting *that* more likely to cause the pain, I proposed to extract it. She reluctantly consented, believing its removal to be impossible. Finding it slightly loose, I took a pair of root forceps, and on grasping it met with unusual resistance. I applied force posteriorly and brought out what proved to be an additional tooth, in the shape of a medium-sized wisdom tooth growing *firmly* attached to the posterior surface of the roots, placed horizontally or at an angle of about 90°; the masticating surface

presented towards the tuberosity of the superior maxillary bone. The periodontal membrane of the root was much thickened.

The patient said she had become aware of this tooth being decayed five years ago, but had consulted no one. The pain was of a decidedly neuralgic character, and was confined to the right temporal branch of the facial nerve. On February 4th Mrs. F— returned, wishing me to extract the before-named lower molar, in which I had placed a dressing of cotton mastic and Calvert's No. 1 carbolic acid. The pain had returned with renewed intensity on the night after the extraction of the offending upper roots with its companion, but on making inquiry this morning she informed me that no further pain had occurred.

I also forward for your inspection an upper left second permanent molar, which I was induced to extract for a young man twenty-five years of age. He had suffered great pain, especially when either warm or cold substances came in contact with it. The pain usually came on fifteen minutes after meals, and continued seven or eight months, therefore he wished me to remove it. Seeing no external indications of disease I naturally hesitated, but gentle tapping gave uneasiness, which, with the other symptoms, seemed to justify its being condemned. On making a careful examination after extraction, the only cause visible was a slight amount of necrosis at the apices of the three fangs, with sharp spiculæ projecting from each. The points of the curved roots appeared to be so close to *the wisdom tooth behind* that it occurred to me very probable that they were in contact, and this may have caused the irritation and subsequent necrosis, by the very act of mastication.

Oamaru, Otago, N.Z. ;
19th May, 1879.

ON MR. FOTHERGILL'S CASE OF CYSTIC DISEASE.

By ALFRED COLEMAN, Esq.

I THINK the very interesting case reported in your June issue by Mr. Fothergill as a calcified dentigerous cyst can be no other than an odontome coming under M. Bricio's third division, viz. "odontomes coronaires," or perhaps the fourth, as one cannot well tell without examining the specimen, viz. odontomes radiculaires. I once fell into the same error as, I think, has occurred to Mr. Fothergill, and was set right by Mr. C. S. Tomes, who was enabled, by making a section, to ascertain the true nature of the specimen.

THE NEW DEPARTURE.

WE regret to find that by some accident Mr. Matthews' article on this subject in our last issue escaped correction. We need not specify the errors, as they are evident to any common sense reader, who will readily see that they are errors for which Mr. Matthews is in no way responsible.

Chemical Department.

CONTINUOUS GUM WORK.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

HAVING been making experiments in continuous gum work for about two years, will you allow me to offer Mr. Fletcher a few suggestions in the hopes that his practical knowledge in the management of gas furnaces may help to produce a really workable result.

After a great many trials with different materials and methods, which I hope to describe at length in the journal in a future number, in which I have received valuable assistance in materials and advice from Messrs Lemale & Co., I have come to the following conclusions:

Firstly, that continuous gum work upon platina plates, has so many disadvantages, in its weight, liability to fracture and difficulty of speedy repair, which are not counterbalanced sufficiently by its superiority of appearance that it is not worth the attention of the general body of the profession, although it may be worked as a speciality in very large towns.

Secondly, that it would be a great boon to be able to add continuous mineral gum to teeth so as to make gum blocks to be attached to gold plates by vulcanite, or fixed in vulcanite plates. The great objection to the use of gum blocks as supplied by the depôts being their want of adaptability to each individual case, and the restriction which they place upon our choice of the character of teeth suited to the patient.

In attaining this end, I have succeeded to a certain extent with Mr Fletcher's furnace as made for the purpose, with certain alterations which I found necessary; but still the process is so tedious and requires such exact management as to make it doubtful if it would be generally adopted. Slight alterations in the pressure of gas at the main, or the way of

the wind affecting the draught, make so great difference in the result as to require constant care and attention.

Success, however, I think, may be obtained by using the smaller and more commandable means of heat placed at our disposal by means of Mr. Fletcher's porous clay injector furnace. To try if this would give heat sufficient for the purpose I placed a muffle upright in it, and surrounded it above the margin of the furnace with pieces of charcoal. I found that the heat was quite sufficient, for in ten minutes with the foot blower the trial pieces melted; but the gas products of combustion rising all around the muffle sank into it from its vertical position, and the colour of the enamel was quite spoilt. To obviate this and throw the flame away from closely surrounding the muffle, I made a rim to the muffle of plaster of paris and sand so as to make the muffle look something like a broad-brimmed hat; this inverted and placed in the furnace, so constructed that the brim, resting on the furnace edge, did not allow the muffle quite to rest on the bottom of the furnace. Half a dozen vents were cut on the under side of the brim so as to allow of the escape of the gas flame when the blowpipe was in action. This contrivance answered exceedingly well as far as heat was concerned, fusing the enamels without difficulty, but utterly failed in keeping out the burnt gases which utterly ruined the colour of the gum.

Since writing the above I have made several experiments with the injector furnace with a small muffle introduced horizontally through the side of the furnace opposite the injector hole, so that the end comes almost close to the injector, the flame from which plays directly upon the end of the muffle. With this contrivance I have had such successful results that I hope soon to be able to describe a method of making mineral gum blocks for special cases, which shall not take more time or trouble than will be repaid in ordinary practice by the superiority of appearance gained.

TRANSLUCENT FILLING.

MANY complaints have reached me respecting this material, the only possible explanation of which must be that I fail in making it uniform in properties. As the manufacture is, under any circumstances, a matter of the greatest difficulty, I am unable at present to guarantee its uniformity.

Any packets which have been supplied—whether opened or not—will be credited or exchanged for other filling materials at any time.—THOS. FLETCHER.

PURIFICATION OF MERCURY.

SHAKE the impure metal twice or three times with an equal volume of a solution containing one part potassium dichromate, twenty water, made slightly acid with sulphuric acid. Shake until the solution becomes a pure green, and wash.

The most impure samples are easily purified by this means.
—T. F.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM JUNE 3RD TO JUNE 30TH, 1879.

Extractions	{ Children under 14	527
	{ Adults	752
Under Nitrous Oxide		348
Gold Stoppings		112
White Foil ditto		23
Plastic ditto		510
Irregularities of the Teeth treated mechanically		62
Miscellaneous Cases		307
Advice Cases		96

Total..... 2737

JOHN H. MCCALL,
Dental House-Surgeon.

WESTERN COUNTIES DENTAL ASSOCIATION.

It is with great pleasure we announce that the Inaugural Meeting of this society will take place on Monday, August 4th, at Exeter; C. Spence Bate, Esq., F.R.S., the President of the Association, will preside.

The Secretary of the Association, J. T. Browne-Mason, Esq., and his excellent lady, Mrs. Browne-Mason, have most hospitably issued invitations to the members and visitors to a lunch prior to the meeting, after which all will dine together.

We have to thank the President and Secretary for their very cordial invitation to this interesting gathering, and Mr. Fox, of Exeter, for his kindly proffered hospitality; but we much regret that circumstances will not allow of our accepting either. We understand that London will be well represented by Mr. Tomes and Mr. Turner, and we heartily wish the Society every success and prosperity.

British Journal of Dental Science.

LONDON, AUGUST, 1879.

FROM various conversations we have held with Dentists of all classes, we are quite satisfied that the scheme of the British Dental Association meets with general approval, and that most practitioners intend to join it; but unfortunately, the spirit of procrastination is so strong amongst us that as yet comparatively few have sent in their adhesion, and many who have thought to do so, have done it in such irregular fashion as much to perplex and unnecessarily add to the labours of the excellent Secretary, Mr. Turner. Every Dentist has by this time received from him a paper, of which the following is a copy, which we again reprint.

“4. A person who is registered in the Dentists Register shall be eligible for election as a member of the Association, provided that he be of good character that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show-case exposed to public inspection; or by means of public advertisements, or circulars, describing modes of practice, or patented or secret processes; or by the publication of his scale of professional charges.

“5. Any registered Dental practitioner who can subscribe to the conditions laid down in Bye-law 4, and who desires to be enrolled in the Association, shall be so enrolled on his signing a declaration (provided by the Association) embodying the aforesaid Bye-law, AND FORWARDING IT, WITH THE SUBSCRIPTION OF ONE GUINEA, to the Hon. Secretary or Treasurer before March 3rd, 1880; after which date any registered practitioner not disqualified by any Bye-law, who shall be recommended as eligible by any three members of the Association, may be elected a member by the Representative Board or by a committee appointed for that purpose by that Board.

“I hereby accept the conditions laid down in foregoing Bye-laws, Nos. 4 and 5, and desire to be enrolled as a member of the British Dental Association.

(Signed) _____

Date _____

Address _____

To _____

Hon. Sec. of the British Dental
Association.”

Now, this seems simple enough, and yet many people blunder over it; some send the declaration signed without the guinea, others send the guinea without the signed declaration; in neither case can they be enrolled, for, wisely following the example set by the British Medical Council, it has been resolved that the rule, of no fee no enrolment, shall be maintained, and of course no amount of fees will ensure a man's enrolment without signing the declaration that he accepts the conditions laid down in the above bye-laws. We hope next month to publish the list of members who have fulfilled all the requirements we have mentioned. Certainly no others will be published, and we would urge upon our brethren to fulfil this almost duty, before starting upon their annual holiday; we call it a duty advisedly, for it certainly is the duty of every practitioner to support men who, like Mr. Tomes and Mr. Turner, are devoting themselves, not to the interests of a small clique or party, but to the prosecution of such measures as are calculated to benefit the whole profession, a work, it must be further remembered, they have had imposed upon them by that profession, represented by the public meeting of March 3rd, 1879, which was called together without any restrictions, by public advertisements in the Dental and daily papers.

WE have alluded above to the labours of Mr. Tomes and Mr. Turner, through whose personal exertions the Dental Act was so successfully and promptly carried through Parliament, and we are sure that many will agree with us that the list of subscribers to the testimonial fund is an utterly inadequate expression of the gratitude and respect felt by all Dental practitioners for these two zealous workers in the cause. We allude to the paucity of names, not to the amounts subscribed; the latter are, we venture to think, in many instances too high, and have, we fear, acted as deterrents to many more humble subscribers, who would otherwise have been glad to testify, by a small subscription, their feeling of

indebtedness to those who have done so much for them. What they *have* done will perhaps be better appreciated in the future than just at this moment, when many have grievances, imaginary or otherwise, arising out of the working of the new Act; but we would urge such men to put by their personal feelings for the time and think only of the genuine good that has already been effected, and of that which is sure to follow, and without further procrastination hasten to swell the list of names which shall tend to show that Dentists are not the ungrateful, apathetic lot that many say they are, but which we, as journalists, have never found them to be when properly appealed to.

Literary Notices and Selections.

THE 'LANCET' ON THE TITLE OF DENTAL SURGEON.

ANY person duly registered under the recent Act authorising practitioners in Dental surgery must obviously be a "Dental surgeon," or, if the inverted form of title be preferred, a "surgeon-dentist." Nothing can possibly be clearer in law and fact than this. And as the Act under which this registration of practitioners is entrusted to the Medical Council distinctly provides that the full privilege it is designed to confer shall extend to persons practising Dentistry in connection with pharmacy at the date of the said Act, it follows that the great majority of chemists and druggists who extracted teeth prior to the close of last session are now legally constituted practitioners under the supervision and guardianship of the Medical Council, and therefore, it may be added, *medical* practitioners able by the construction of the Act to hold themselves out to the public as Dental surgeons or surgeon-dentists. The legal interpretation placed upon the compound title "surgeon-dentist" by the Court of Queen's Bench some years ago is not in the smallest degree affected by the Dental Practitioners Act, except in so far as the judicial view then promulgated derives new strength and force from the circumstance that whereas Parliament has, since the decision to which we refer, been especially petitioned to prohibit the use of the word surgeon, either alone or in combination, except by a fully-qualified

medical practitioner, registered under the Medical Act of 1858, the prohibition desired has *not* been incorporated in the new Act. It is useless to blink this fact, and misleading to try to qualify the effect of the law as it stands. There can be no question that nine-tenths of the chemists and druggists, and all the Dentists who drew or made teeth at the close of 1878, and every person who will take the pains to procure one of those half-qualifications which are granted in Dentistry, may, with the full sanction of the law, commence practice with a title which, judiciously emblazoned on a door-plate, cannot fail to impress the residents in any populous neighbourhood with the belief that the practitioner is a medical man, and properly qualified. It is easy to see how this boon, which leading Dentists, many of them members of the medical profession, have won for their specialty, must aid the prescribing druggist in his pursuit of counter-practice. The only difficulty he has now to encounter arises from the fact that as a rule the surgeon-dentist does not visit. Of course he can do so if he please, but it is scarcely in accordance with "custom." The practitioner registered by the Medical Council as a surgeon-dentist will, therefore, probably deem it worth his while to go one step further, and by acquiring a licence in midwifery, to provide himself with the legal right to assume the high-sounding title "*Surgeon Dentist and Accoucheur*." With a description so ample the practitioner will be prepared for any contingency. Are we not justified in designating the state of matters to which this position of the law points as legalised quackery?

It is not in the best neighbourhoods, or in London especially, that the evil we are trying to expose is most mischievous to the public or the profession. In the suburban districts, and in many populous localities, particularly in and around the great manufacturing towns, it is practically impossible for the unskilled and busy people who need advice for themselves or their families to distinguish between the qualified and unqualified so far as general medicine is concerned. It is difficult to bring the worse phase of the mischief directly under the cognisance of the legislature, and from some inexplicable cause the truth does not seem to be self-evident, as it might fairly be expected to be, to thoughtful members of Parliament. The remonstrances which are from time to time addressed to the House of Commons against the legal sanction of quackery would appear to be regarded as the outcome of jealousy and greed. It should be apparent without the need of argument, that the interests of the community as a whole are injuriously affected by anything and everything that favours misrepresentation. If a law, either by

defect or ambiguity, enables the pretended professor of an art so important to public well-being as is that of healing to describe himself so as to mislead the community, it must certainly be wise to amend the statute. If this is not held to be necessary, how came it to pass that the Legislature took the trouble to pass the original Act? Supposing the thing was worth doing, it was worth doing well and effectively. It ought, therefore, to be sufficient for the purposes of parliamentary enlightenment to point out that the Dental Practitioners Act of 1878 is a delusion and a snare, that it legalises quackery, and, besides burdening an already overworked Medical Council with business in which it has no concern, deludes the public, and plays into the hands of those who are ever on the alert to impose on ignorance or credulity. There is, however, abundant evidence that Parliament will not be moved by any plain statement of the facts, and only one course is open to those who feel an interest in the question. We, accordingly, advise the Association of Surgeons practising Dental Surgery to take the matter seriously in hand, and—avoiding the misconceptions, the divided councils, and the strange lack of intelligent appreciation of the plain meaning of words, which marred their work and led them so grievously astray, in spite of warning, in 1878—to place the case directly and clearly in evidence before the Select Committee now investigating the Medical Bills. The remedy for all the evils of which we complain is perfectly simple, and should be easy to compass—namely, the introduction of a dozen words somewhere in an Act of Parliament—it matters nothing which or where—to the effect that no person shall take or use the title “Surgeon,” alone or in combination with any other word or words, unless he be registered under the Medical Act of 1858, as it stands or may be amended. This would cover everything, and surely it should be a fairly practicable measure of medical reform.

DOCTOR AND DENTIST.

SINGULAR ACTION AND SEVERE CENSURE BY THE JUDGE.

At the Manchester Salford Hundred Court of Record, on Wednesday, June 18th, 1879, before Mr. H. W. West, Q.C., Judge, and a jury, Henry James Warrington, Dentist, carrying on business at 17, St. John's Street, Deansgate, Manchester, brought an action against William Hornblow, lately carrying

on business in St. Ann's Square, to recover £26 5s., the price and expenses connected with an artificial set of teeth which had been supplied to the defendant—Mr. Smith appeared for the plaintiff, and Mr. Addison for the defendant.

The statement for the plaintiff showed that in May last year Mr. Hornblow went to Mr. Warrington's place of business and said that he required an artificial set of teeth for himself, and asked for a little credit, which was given. Subsequently the defendant got the teeth fitted into his mouth. When the account was afterwards applied for, Mr. Hornblow said the teeth had been made a present to him by Dr. M'Millan, by whom he had been introduced to the plaintiff. This was denied by the plaintiff, and he maintained that the transaction had been solely between himself and the defendant.

Dr. M'Millan, in his evidence, said that for the past ten years he had introduced patients to the plaintiff, for which he was to receive commission. He had previously had a similar arrangement with another Dentist, but at the request of Warrington he had introduced the whole of the persons to him. He introduced the defendant to Warrington, and by an arrangement between latter and witness a set of teeth were to be supplied to the defendant out of what was owing to him (Dr. M'Millan). The case for the defence having been concluded,

The learned Judge, in summing up, said that here a respectable medical gentleman recommends his customers to go to the plaintiff to have their teeth set right, not because he (the plaintiff) is a clever man, but on account of friendship and the commission he was to receive. The practice was perfectly monstrous; in fact, he did not know an expression strong enough to characterise it by, and he quite agreed with the opinion of the Master of the Rolls and other learned judges in condemnation of the same. However, this expression of opinion had nothing to do with the merits of this case. The jury after a few minutes' consultation returned a verdict for the defendant.—*Manchester City News*.

Dental News and Critical Reports.

DENTAL HOSPITAL OF LONDON MEDICAL SCHOOL.

DISTRIBUTION OF PRIZES.

Prof. JOHN ERIC ERICHSEN, F.R.S., in the Chair.

THE Annual Distribution of Prizes to the successful students of this School took place at Willis's Rooms on the 4th inst., at 4 o'clock, p.m.

The Dean, Mr. T. F. KEN UNDERWOOD, read the following report:—

It is again my pleasant duty to report upon the progress of our Medical School during the past year. I am glad to say that it has in all points been more satisfactory than we could reasonably have hoped for.

Of course we cannot be independent of the depressing condition of affairs all around us, but we are not bankrupt, and I hope our work shows no sign of failing vigour.

I briefly mentioned last year that a Bill for setting our Branch of Surgery on its proper footing was before Parliament; in July last the Bill received the Queen's assent, and is now law. I shall not say more upon this point, not because it is unimportant, but because I am anxious to take up as little time as possible with my report, and because it will no doubt be mentioned in the course of our proceedings.

To begin with the necessary details of our work as a Medical School. The entries during the last twelve months have considerably exceeded those of last year, and this is a healthy sign when we call to mind the increased stringency of the curriculum required to qualify in this branch of Surgery, the compulsory examination in arts, and the new Act of Parliament requiring each Dental Surgeon to hold the Dental diploma. Most thankful are we that our efforts to obtain these ends have been so successful.

The three yearly examinations at the College of Surgeons of course thin our ranks, but the places of those who thus leave when their work here is finished are rapidly filled up by recruits: 36 candidates have passed their examinations successfully during the past year, and of the 17 who presented themselves at the College of Surgeons last month, 15 passed; a very high proportion all will allow.

This result is largely due to the untiring work of our medical tutor, Mr. Storer Bennett, and the improvement in

the surgical knowledge exhibited by our students during the examination has called forth very complimentary remarks from some of the members of the Surgical Board.

Our demonstrator, Mr. Claude Rogers' work, has more than answered our expectations, and these two appointments, which were instituted as experimental and tentative, have proved of very great value.

Before I leave this part of my subject, I may say that the institution of a practical examination at the College which embraces Surgical Diagnosis, as well as the manipulative work of Dental Surgery makes the appointment of a demonstrator an absolute necessity.

At the head of our prize list stands the Saunders' Scholarship, which was founded some four years ago by our friend Mr. Edwin Saunders, who, I am glad to say, is present with us to-day, and who will shortly present it in a substantial form to the scholar for the year.

This valuable and generous gift of Mr. Saunders to our school was presented with the intention and wish that it should be an incentive to our students to prosecute scientific research in their profession, and we framed such rules with regard to it as should best secure this end and insure its being won only by a very first-rate man.

Each year the donor's intention and our wishes have been fulfilled, and the Saunders' scholar this year, Mr. J. B. Magor, has proved himself no ordinary person.

When I read you his list of prizes here and at Middlesex Hospital you will not wonder that we *are* proud of him. In every subject taught here he has carried off the first prize.

The following is a list of his achievements and I warn you it is a long one.

Dental Hospital.

- Hon. Certificate Dental Mechanics, 1877.
- 1st Prize Metallurgy, 1877.
- „ „ Dental Anatomy, 1878.
- 2nd „ Dental Surgery, 1878.
- 1st „ Dental Mechanics, 1878.
- „ „ Dental Anatomy, 1879.
- „ „ Dental Surgery, 1879.

Middlesex Hospital.

- 1st Prize Chemistry, 1877-78.
- „ „ Physiology, 1877-78.
- „ „ Materia Medica, 1878.
- „ „ Practical Chemistry, 1878.
- „ „ Surgery, 1878-79.

After this, Mr. Magor, who is, I am glad to say, our Assistant House Surgeon, needs no further introduction from me.

Our staff of Lectures has undergone a change in the resignation of Mr. S. Hamilton Cartwright of the Lectureship in Dental Surgery and Pathology. Mr. Cartwright, who succeeded our old and valued friend his father, has held this post for some years, and while we have lost him as a colleague we know that his interest in us is not diminished by his ceasing to hold office.

Our Chairman of the Medical Committee, Mr. Coleman, has succeeded to the Lectureship.

Mr. Coleman is too well known to all here to make it necessary for me to say much as to the advantages the school will gain from his services. We congratulate ourselves on having him upon our teaching staff, and we hope he may long continue the work.

We are indebted this year as usual to Mr. Buchanan of Glasgow for his handsome prize of five guineas. I am afraid my regrets at his unavoidable absence are becoming a stereotyped phrase, but they are none the less sincere because they are of annual occurrence.

We have lost our late excellent House Surgeon, Mr. Read, who, for the last twenty-one months, has so energetically and efficiently carried out the duties of his post. He takes with him the sincere good wishes of all the staff, and I am sure I may say of the students also. However reluctant we may be to part with old friends, we must reconcile ourselves to what is inevitable. Our present House Surgeon, Mr. McCall, who has just been elected to the post, has, as assistant to Mr. Read, thoroughly and kindly carried out the duties attaching to his office, and we feel certain that the work of the hospital and the treatment of the patients will not suffer in his hands.

I think it will be admitted by all who are present to-day, and who have from my report some insight into our work, and who see the aim we set before us, that of skilfully and kindly ministering to disease and suffering, none the less acute and hard to bear because its area is limited, that this branch of medicine is worthy of its parentage, and strives to the utmost to fulfil its purposes of doing good to all who need its help, whether rich or poor.

Finally, I must express on behalf of my colleagues and myself the great pleasure which it gives us to see so many friends with us to-day.

We very sincerely appreciate the interest they show in us, and we bid them heartily welcome. We can scarcely put our proceedings in competition with the many and varied attractions going on around us, and we are the more flattered by the attendance of those ladies who have so

kindly graced our annual prize distribution with their presence.

If the hospital possesses any attractions to our visitors it is scarcely five minutes' walk from here, and we shall be very pleased to show them the building.

The Prizemen were:—

The Saunders' Scholarship Mr. Magor.
 The Prize for Operative Dentistry, kindly given
 by Mr. Coleman, as President of the Odonto-
 logical Society for 1878. Mr. Noble.
 Mr. Buchanan's Prizeman Mr. B. L. Harding.

Subject.—"Describe the Structure of Human Enamel; and also its Structure in Different Animals, especially in those where its Normal character would be more or less Pathological in the Enamel of Man."

SUMMER SESSION, 1878.

Dental Surgery and Pathology—

First Prize Mr. D. S. Hepburn.
 Second Prize Mr. J. B. Magor.
 First Hon. Certificate Mr. A. Taylor.
 Second Hon. Certificate Mr. J. H. McCall.

Dental Anatomy and Physiology—

First Prize Mr. J. B. Magor.
 Second Prize Mr. D. S. Hepburn.
 First Hon. Certificate Mr. A. Taylor.
 Second Hon. Certificate Mr. J. H. McCall.

WINTER SESSION, 1878.

Mechanical Dentistry—

First Prize Mr. Mayne.
 Second Prize Mr. Maggs.
 Metallurgy Prize Mr. Rees Price.
 The Dean's Prizeman Mr. H. J. Alexander.

For "Report of Cases of Treatment of the Exposed Dental Pulp."

SUMMER SESSION, 1879.

Dental Surgery and Pathology—

First Prize Mr. J. B. Magor.
 Second Prize Mr. A. Maggs.
 Hon. Certificate Mr. Harry Davis.

Dental Anatomy and Physiology—

First Prize Mr. J. B. Magor.
 Second Prize Mr. A. Maggs.
 Hon. Certificate Mr. Harry Davis.

The Prizes were distributed by Mr. Erichsen, and the Saunders' Scholarship by Mr. Saunders himself, the several recipients being complimented in eulogistic terms upon their success and well-earned rewards.

After the distribution of the prizes, Mr. Saunders proceeded, on the invitation of the Medical Committee, to award his own Scholarship in the following terms :

Professor Erichsen, Ladies and Gentlemen,—Though it gives me very great pleasure to accept the invitation of the Medical Committee to make this, the first regular award of the Scholarship which bears my name, yet I cannot help feeling that in doing so I am rather like a man who acts as his own executor. For while it might not be thought surprising that being one of its trustees, and having from its establishment done all in my power to promote its interests, I might leave it a bequest, with the pardonable and not uncommon vanity of connecting my name with this institution, yet that this should be done, and that I should be here to make the award, may seem to require explanation or apology. If it should be thought that I am living too long, I can only say that not being conscious of having outlived in any degree my interest in the Dental Hospital and the school connected with it, I must beg to be allowed to demur to such an explanation. Those who are acquainted with the history of this institution are aware that it was not always so well lodged as at present, with an open space in front, an uniform light with a northern aspect, well ventilated in summer and warmed in winter, and with ample arrangements for carrying on the work of the hospital, both in the interests of pupils and patients. These conditions, so essential to the successful teaching of Dental surgery, and which constitute a rare combination in Leicester Square, were, to say the least, conspicuous by their absence in the original home of the Dental Hospital ; nor was there any possibility of making such structural alterations in the building as to adapt it to the demands created by the growing reputation of the school. Obvious, however, as were the necessity and the advantages of the change, it was not to be lightly undertaken. The houses in Leicester Square were in a ruinous state, having been unoccupied during many years ; there were no available funds, nor was there even unanimity among those concerned as to the desirableness of the change.

Notwithstanding these discouragements, however, the work was done, and the transfer made, without incurring debt and without interruption in the daily work of the hospital. And for my share in this somewhat arduous undertaking I had the gratification of receiving a testimonial, which suggested the founding of this Scholarship of the value of £20 annually,

to be awarded to that student who shall have done best in all departments, and this Scholarship differs from the other prizes in this : that it is not an annual gift dependent on the life or ability or goodwill of the donor, but it is derived from a trust fund or endowment, and thus becomes the inalienable property of the school for all time. Having said this much by way of explanation of this bequest, which is not a bequest, not being posthumous, in memory of one who is still alive, it only remains for me to confer it on Mr. Magor, to whom it is adjudged by the consent of the distinguished professors of this school. Mr. Magor has already made his appearance on this platform several times, and is the winner of several first prizes, and has thus established his claim to the possession of this Scholarship.

With such a catalogue of triumphs eulogy is superfluous, and any remarks of an encomiastic nature would be distasteful, for the man of great achievement is ever modest, but it must not be forgotten that he who does so much to clothe himself with honour, adds a new lustre to the school to which he belongs.

In performing this pleasing duty, I will express a hope, in which, I am sure, all present will join, that your future professional career may have all the success and all the distinction that you can desire, and of which this auspicious commencement may well justify the expectation.

Mr. ERICHSEN then delivered the following address :

Ladies and Gentlemen,—Had I been requested to preside at the Distribution of Prizes in a class of divinity, or of law, of engineering, or of art, I should have felt myself so utterly incompetent to enter into the spirit of the competition, or to appreciate the work done by the successful competitors, that I should have been compelled to have declined the honour. But when your Committee asked me to preside on the present occasion, I had no hesitation in complying with the request; for, looking upon Dentistry as a department of surgery, I felt that I should be as much at home amongst the students in that art as I have been amongst those who have prosecuted that science to the study and cultivation of which my life has been devoted.

On an occasion like the present it is usual, and the custom is a good and wholesome one, to address a few words of advice to those who have entered upon the competition, and to those who will proceed from the school more directly into the active business of life. And first let me say a few words to those students constituting, as they necessarily must, the majority amongst you, who have not come out as victors in this scholastic strife. To them I would say, although you

will be disappointed, and I know full well, from the experience of past years in my own case, how great and bitter the disappointment is, not to have succeeded in that on which the heart has been set for many months so earnestly ;—I would say that although you may be disappointed, be not discouraged : for without taking too optimist a view of the case, and without pretending that it is to your advantage that you should have been defeated, I can truly say that that defeat may have taught you a most valuable lesson, and may prove to be a source of after advantage. The lesson that it will teach you is this, that unless your lot is cast in a very different mould to that which happens to most of us, you will, by your very want of success to-day, have learnt to bear with more resignation and more philosophy than might otherwise have been the case, those greater disappointments that inevitably await you in after life. And the advantage that you may derive from your non-success is this, that in the very competition into which you have entered, your minds will have been cultivated and trained to the work of your profession in a manner that would not have been the case had they not been stimulated by emulation.

You doubtless all remember the story of the farmer who left a field to his son, with the injunction to search it diligently and he would find a treasure in it. The son dug over the whole field, turning up every sod in vain in search of the hidden treasure. He failed to find it ; but although he was not successful in obtaining the prize for which he laboured so long and diligently, the cultivation that he bestowed upon the field in his search made it more ready for the reception of its destined seed, and in good time it bore abundant and golden harvests. So it is with you ; you have not attained the prize, but you have cultivated your minds in such a way that they will more readily receive the seed of knowledge which will bear good and useful fruit in due time.

To those who have been successful I would say this, that gratifying and honorable as are the distinctions you have won, the prizes that you will carry away with you are not the ends for which you have been striving. They should merely tend to stimulate you to fresh labour and to continued exertion. They should strengthen you for competition in that great struggle of life where the prizes to be obtained are those of professional distinction, of social eminence, and of that affluence which is the reward, and may possibly in some cases be taken as the measure, of your merit.

You will have learned the secret of success, that that secret consists in earnestness in your work, in unflinching perse-

verance, in dogged determination to attain, and to attain by honorable and worthy means, the goal on which you have fixed your gaze. You will have learned that true success in work is not to be obtained by any transient or spasmodic effort, but that you must build up the structure of knowledge, brick by brick, from a solid and stable foundation; that you must never let a day pass without leaving its mark. Let

“ Each morning see some task begun,
Each evening see its close,
Something attempted, something done,
To earn a night's repose.”

Gentlemen students, as I have already told you, the profession that you have chosen is a department of Surgery. You have entered it at a period when it is in a state of change and of transition. Its future will be greatly influenced for good or for evil according as you conduct yourselves in it. In looking to the history of Dentistry, and to its probable future, it is impossible not to be struck by the close resemblance that subsists between it, so far as it has gone, and the early struggles through which surgery had to pass before it attained its present position as an art-science. And, indeed, so close is the resemblance between the evolution of Dentistry and of surgery, that it may not altogether be an unprofitable task if I devote a few minutes to the consideration of the rise and progress of surgery, so as to enable you, to a certain extent, to forecast the probable future of your own profession. Like that of many of the families of distinction, the origin of surgery was more ignoble than obscure. For the surgeon, distinguished as he may be, may quarter upon his arms the barber's pole; that pole which in its red and white lines typifies the stream of blood and the fillet that first encouraged and then restrained its flow. So, also, if we look to Dentistry its origin is certainly not more exalted, for instead of the barber's pole the Dentist may affix upon his escutcheon the pincers of the farrier, or of that village blacksmith who, “toiling, rejoicing, sorrowing,” probably sorrowed for the pain that he inflicted upon his fellow parishioners by his unskilful efforts in the use of his pincers.

Surgery, in fact, just like Dentistry, was in its early commencement a purely mechanical art, a handicraft. The very word surgery is derived from the two Greek words *χειρ* and *εργον*, signifying handiwork or handicraft. And so it was throughout remote antiquity, and continued during that dark night of unlettered ignorance which overshadowed Europe after the fall of the Roman Empire. At that period of social and intellectual degradation, the practice of surgery

was confined to mechanics who acted under the orders of their superiors, the physicians, who would not degrade themselves by attempting, or who possibly could not accomplish those mechanical acts which they left to their professional inferiors. But on the revival of learning, surgery emerged from this state of degradation, and by the labours of such men as Ambrose Paré, in France, Wiseman in this country, subsequently by the Cheseldens, the Hunters, the Bells, and the Coopers, it acquired the dignity of an art-science, and ranked on a level in all respects with medicine; for those great men were not mere workers with the hand, and however skilled they might be in manual procedures, they yielded to none in the success with which they studied, and in the impulse they gave to those great truths of physiology and pathology which lie alike at the basis of medicine and of surgery.

Medicine and surgery, it is true, continue to be divided in practice. Such division, however, is an arbitrary one; and when a learned physician was once explaining to his patient that medicine was separated from surgery by a wall of brass, a *murus aheneus*, the patient very pertinently inquired, "On which side of the wall, Doctor, do you intend to place me?" But the fact is, there is no abrupt distinction, no sharp line of demarcation between medicine and surgery. In nature there are no sharp and clearly defined lines of demarcation. Nature is bound together, all her works in one continuous and harmonious whole, and just as one colour of the spectrum gradually merges into another, just as one family of animals, or of plants, is composed of different genera, and those, again, of different species by which it is united almost imperceptibly with its allies; so there is no abrupt line of transition or of demarcation between the sciences, and the sciences of medicine and of surgery are one and indivisible; they both rest on the same basis of physiology and pathology.

This separation in practice, however, though arbitrary, is convenient, and, indeed, has become necessary; for so wide is the circle of the medical sciences, and so carefully has every spot within its area been cultivated, that no intellect, however capacious and grasping, could embrace the whole. Their separation, indeed, is only part of that division of labour which is found to be convenient in all human affairs, and in my profession it has extended far beyond the two primary ones of medicine and surgery. Surgery itself has been subdivided into several branches, as ophthalmic, orthopædic, and, I may add, Dental. But for a proper knowledge of any one of these branches, an intimate acquaintance with the structure and functions of the human frame as a whole

is absolutely required. It is true that the mere practical manipulations of some of these divisions might be performed by a person utterly ignorant of anatomy, of physiology, or of pathology. I can conceive such a person extracting skilfully enough a cataract, or making an opening in the iris; I can conceive him dividing a tendon, extracting or stopping a tooth; but who would have confidence in such an individual for the management of the various diseases, malformations, and injuries to which the eyes, the limbs, or the teeth might be subjected?

That Dentistry has greatly developed of late years in importance and professional estimation is undoubted. It is easy perhaps to trace the cause of this, the truth is that Dentists have become more necessary to the community at large than they were in more primitive stages of society. It has been truly said by one who was evidently as well versed in psychology as in physiology, that a good digestion is the first step to the woolsack; but to this it may fairly be added, that good teeth are the first step to that "good digestion" which at all events "waits on appetite." Now civilisation appears to be somewhat antagonistic to good and strong teeth. Compare the large jaw, the small, deep-set, white and glistening teeth of the savage, with the small jaw, and the large, loosely structured, crumbling teeth of the civilised man, and you will at once see how an artificial state of society influences injuriously the integrity of the teeth. If a savage were to loose his teeth, he would die of inanition, for he could neither bite, nor tear, nor masticate the tough and hard food on which he has to subsist. Old lions die because their teeth wear out. When we read in romance that the Norman baron extracted tooth after tooth from Isaac of York, in order to make him divulge where his money bags lay hidden, we pity the poor victim of this ferocious cruelty not only for the pain that he suffered during that unskilful procedure, but by reflecting on the fact that the loss of his teeth would inevitably shorten his life, for in that rude age the coarse and fibrous food on which he had to subsist could not be masticated by his edentulous jaws. Society always rewards those of whom it stands in need, and in proportion as the Dentist has become more necessary, so his social position and professional status have greatly improved. During the last quarter of a century Dentistry, in fact, has been rising to the position of one of the learned and liberal professions. The first great effort made by its members themselves was in the establishment of the Odontological Society; a voluntary institution, just as Surgeon's Hall was in the

last century. Through the efforts of this society Dentistry came to be recognised by the College of Surgeons as a part of Surgery; and the first real professional status assumed by the members of the Dental profession was accorded them in the year 1859, in a charter of the College of Surgeons, by which that institution was granted the privilege of giving the licence in Dental surgery. That licence has now been taken by between 500 and 600 Dentists. The examination which is required by the College of Surgeons embraces all those scientific and practical subjects which it is necessary for a Dentist to know. And although many Dentists go beyond this, and take the membership or even the fellowship of the College of Surgeons, I can scarcely look upon such an extension of professional study as being necessary to the great body of your profession. In fact, in order to obtain the membership of the College of Surgeons, it would be necessary for the Dental student to acquire an amount of technical surgical knowledge which would be utterly useless to him in after life, and no time can be worse spent by a young man than in the acquisition of knowledge which he knows will be useless, and which he intends to throw aside, and to forget as soon as he possibly can after he has obtained the diploma for which alone he has sought to acquire it.

I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it, and you may be sure of this, that the examination for this diploma, as for every other license to practice, will not become less stringent as years go on.

I shall not enter into the vexed question as to whether it would be wise to establish a College of Dentists, or whether it is wise for members of the Dental Profession to try to ally themselves by closer ties of fraternity and of good feeling to the College of Surgeons. But on this I entertain a very strong opinion, and it is this, that I conceive it to be an honour to any professional man whatever branch of the medical profession he may practise, to be associated with an institution like the College of Surgeons, which is, without any doubt, the greatest medical institution in the civilised world. I am acquainted with, I believe, every medical institution (I am not now speaking of hospitals) on the continent of Europe; I have visited most of those in America, and I can most truly say that nowhere out of London does an Institution exist which can compare in the extent and utility of its museum, in the completeness and magnitude of its library, in the importance of its lectureships, in the value of its endowments and in the amount of its income, with the Royal College of

Surgeons of England. With that Institution I should advise you, gentlemen, to associate yourselves by the closest ties in your power.

The events of the past year have been of much importance to the Dental profession, and they so closely resemble those that occurred in the medical profession between sixty and seventy years ago, that I cannot refrain from mentioning them. Previous to the passing of the Apothecaries Act in 1815, any one who chose might practise as an apothecary. In that year, all men who were actually engaged in practice as general practitioners were admitted into the medical profession without any examination. They were considered in the eye of the law as legally qualified medical men, and acquired all the rights, privileges, and immunities of the legally qualified practitioner. So it has been with you. By the Act of last session, all men in the *bonâ fide* practice of Dentistry were admitted to the register, and acquired the privileges of the legally qualified Dentist. No doubt this opening the floodgates of a profession to outsiders is always at the time unpopular with those already within its limits, but it is unavoidable, and any other course would be an act of injustice to many deserving men. Your calling, then, gentlemen, has at last by legal enactment been raised to the dignity of a profession; and I have already told you that in order to study it you must work with earnestness, with perseverance, and with a full intention of conquering the difficulties that lie in your path. You will find that the study of your profession, just like that of surgery, is based on a tripod, and the three legs of that tripod are respectively the science of biology, clinical observation, and mechanical skill. The science you will learn from lectures and from books; clinical observation you will learn for yourselves by diligent attendance at the hospital, and by close observance in private practice: mechanical skill you must acquire, and you must acquire it early in life. The hand is then plastic, and readily adapts itself to new manipulations. All physical acts that require skill must be learned, if learned at all, in early life. Riding, dancing, fencing, and other acts of skill must be acquired whilst the body is still supple, and ready to accommodate itself to new positions; and so in surgical practice in all its departments. And let me urge upon you the necessity of acquiring this skill not only for the sake of your patients, but also for your own. Without it, all your other knowledge is valueless. By it you will be judged. Your science cannot be plumbed, but of your skill any bystander may form an opinion. Lose no opportunity, therefore, of perfecting yourselves to the utmost of your ability.

But, gentlemen, you have entered a learned and liberal profession, and for success in it something more is needed than a mere acquisition of knowledge. It is an old saying that "knowledge is power;" but this, like many other trite sayings, is only partially true—it is not the whole truth. Knowledge by itself is no longer power; it has been too diffused, is possessed by too many, for it to confer advantage by its possession alone. For knowledge to confer power, that is to say, the respect and confidence of your fellow-men, it must be conjoined with other qualities; it must be conjoined not only with the ability to use it, but with the determination to use it aright, to apply it to none but worthy and honest purposes. If you do not this—if you fail to make a proper use of your professional acquirements, if you turn them to any unworthy, mercenary, or selfish ends—you may in a way be successful, but your success will only be temporary, and will but render more bitter the failure and disgrace that will eventually overtake you. If you will study the biographies of any of those men who have risen to acknowledged and continued eminence in the medical profession—and I do not know a more useful and interesting study than this—you will find, I venture to say, without one single exception, that in no one case has a high professional and social position been attained by scientific or practical acquirements alone, but that in every instance they have been conjoined with, and their success enhanced by moral rectitude, and by an upright and honest character.

In order to win permanent success in your profession you must learn to deserve it. Bear in mind that your profession is a learned and liberal one, the great object of which is to be of service to others. If you will bear this object constantly before you—if you will be guided in your intercourse with one another by a sense of honour, of candour, of self-negation, and of liberality—you will not only possess an inward feeling of self-respect that will support you through the trials of life, but you will gain the esteem and affection of your professional brethren, and you will consequently practise your profession in happiness and comfort.

In your intercourse with the public, conduct yourself in a manner that is not only worthy of you as gentlemen, but in such a way as should characterise the members of an enlightened profession. Let no man say that it can signify little to the body to which he belongs how he may individually act. From the very first day of your entry as students you constitute a part of the profession, and owe a duty to it as well as to yourselves, and may, according as you act therein, exercise an influence for good or evil upon

it. The profession to which you belong will be judged of in a great measure in your own circle, by the friends who immediately surround you, from your behaviour. Let that, therefore, always be marked by courtesy, by truthfulness, by the cultivation of the amenities of polished life, in a word, by all that should constitute the character and deportment of a gentleman. Let these be the guides of your conduct as students in after life, when you will be called upon to take your part in questions affecting the interest and welfare of the great body to which you belong.

The address, which was delivered extempore, was listened to with marked attention throughout.

A vote of thanks having been given to the Chairman, Mr. Erichsen, the meeting separated.

Miscellanea.

GENERAL MEDICAL COUNCIL.

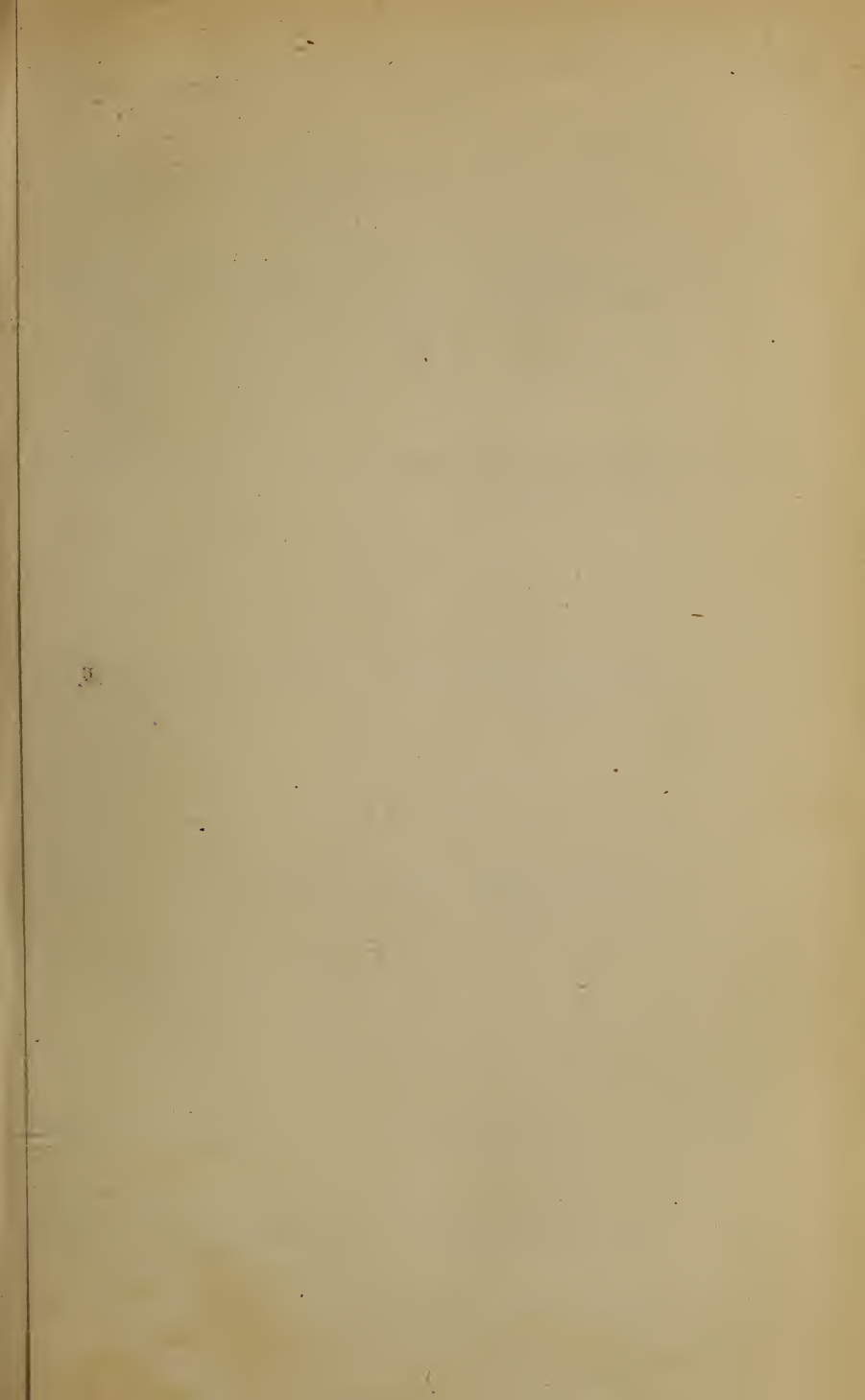
DR. ACLAND, President, in the Chair.

THE following business relating to Dental matters was transacted by the Council at its Session on July 17th to 19th.

There was first read by the registrar the following communication from the Royal College of Surgeons in Ireland (under date "April, 1879"), in answer to a letter sent by the registrar pursuant to the General Council's Resolution 21 of the Meeting on March 26th, 1879 ('Minutes,' vol. xvi, pp. 146, 147, Clauses 20, 21):—

"With reference to the Dental curriculum, this Council have agreed to accept the General Regulations as laid down by the General Medical Council, but they cannot accept that portion of the Regulations relating to the examination of candidates, *sine curriculo*, up to August, 1881, whereby the examination of candidates for their licence would be confined to residents in Ireland. This in their opinion could not be justified by what has hitherto been, and still is, the practice in regard to medical and surgical qualifications, or which obtained in England at the time the qualification in Dental surgery was instituted by the Royal College of Surgeons of England."

Dr. ANDREW WOOD.—If you refer to the resolution in Vol. xvi of the 'Minutes,' p. 147, you will find in the last column of the Dental curriculum the following proviso:—"Candidates who are in practice in Scotland before August,



LICENSING BODIES.	GENERAL MEDICAL SUBJECTS TO BE ATTENDED AT A RECOGNISED SCHOOL AND HOSPITAL.										CERTIFICATES TO BE PRODUCED			EXAMINATIONS SINE CURRICULO
	Anatomy.	Anatomy of head and neck. Not less than 20 lectures, or second course of anatomy.	Dissections.	Physiology. Winter course.	Chemistry.	Surgery.	Medicine.	Materia Medica.	Practical Chemistry.	Attendance at a recognized General Hospital, with Clinical Instruction.	Of being 21 years of age.	Of having been engaged 4 years in Professional Studies.	Of having passed a Preliminary Examination in Arts.	
Royal College of Surgeons of England.	Not less than 1 Winter Session	1 course	9 months	1 course of 6 months	1 course of 6 months	1 course of 6 months	1 course of 6 months	1 course	1 course	Not less than 1 year	21 years	4 years	1	<p>Candidates who were in practice or who commenced their education as Dentists</p> <p>Before Sept. 8, 1859.</p> <p>and who at the time of the passing of the <i>Dentists Act</i> were practising in England, are admitted to examination, on the production of certain Certificates.</p>
Royal College of Surgeons of Edinburgh.	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	<p>Candidates who were in practice</p> <p>Before August, 1878,</p> <p>and apprentices who commenced their education as Dentists</p>
Faculty of Physicians and Surgeons of Glasgow.	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	<p>Before August, 1875,</p> <p>are admitted to examination on the production of certain Certificates.</p>
Royal College of Surgeons in Ireland.	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	<p>Candidates who were in practice</p> <p>Before August, 1878,</p> <p>and apprentices who commenced their education as Dentists</p> <p>Before August, 1875,</p> <p>are admitted to examination on the production of certain Certificates.</p>
SPECIAL SUBJECTS.														
LICENSING BODIES.	Dental Anatomy, and Physiology, Human and Comparative.		Dental Surgery.	Metallurgy.		Mechanical Dentistry.		The Practice of a Dental Hospital, or of the Dental Department of a General Hospital.	Certificate of having received instruction in Mechanical Dentistry during 3 years from a Registered Practitioner.	<p>† N.B.—Every successful Candidate, previous to receiving the Licence, shall declare that he will not advertise, or pursue any other unbecoming mode of attracting business, so long as he holds the Licence in Dentistry of the College.</p>				
Royal College of Surgeons of England.	Not less than 24 Lectures		Not less than 20 Lectures	Not less than 12 Lectures, unless specially included in Practical Chemistry		Not less than 12 Lectures or Demonstrations		2 years	3 years					
Royal College of Surgeons of Edinburgh.	Ditto		Ditto	Ditto		Ditto		Ditto	Ditto					
Faculty of Physicians and Surgeons of Glasgow	Ditto		Ditto	Ditto		Ditto		Ditto	Ditto					
Royal College of Surgeons in Ireland	Ditto		Ditto	Ditto		Ditto		Ditto	Ditto					

1878, and apprentices who commenced their education as Dentists in *Scotland* before August, 1875, are admitted to examination on the production of certain certificates." And then, again, "candidates are admitted to examination up to August, 1881, by the Royal College of Surgeons in *Ireland*, on the production of certain certificates, if they have been in practice in *Ireland* five years before the date of this application." Now, what the Irish College has declaimed against—and I believe with good reason—is our attempting to limit the power of licensing in Dentistry, *sine curriculo*, to persons who have been in practice either in *Scotland* or in *Ireland*. That was not done in the case of the English College, when they were allowed to give licences *sine curriculo*. Now, seeing that this licence of Dentistry is to meet an exceptional case, and that it will not long continue, I should be inclined to think that you should extend to both *Scotland* and *Ireland* the privilege that *England* enjoyed. I therefore beg leave to move that, "In the last column in the Dental Curriculum, as amended on p. 147, of volume xvi of the 'Minutes,' the words 'in *Scotland*' and 'in *Ireland*,' be omitted, so that the examinations *sine curriculo* be as set forth in the annexed Table." The proviso will then read, "Candidates who are in practice before August, 1878, and apprentices who commenced their education as Dentists before August, 1875, are admitted to examination on the production of certain Certificates. Candidates are admitted to examination up to August, 1881, by the Royal College of Surgeons in *Ireland*, on the production of certain certificates, if they have been in practice five years before the date of this application." I think that will be fair and proper. I may mention that Sir JAMES PAGET, at whose suggestion the words 'in *Scotland*' and 'in *Ireland*' were inserted, has authorised me to state that he is satisfied that it was a mistake, and that he has no objection to the alteration that I have proposed.

Sir WM. GULL.—Is it intended to give men in *Scotland* and *Ireland* better terms than they can get in *England*? Is it a bait, to draw a number of very doubtful persons to a different division of the kingdom, in order to get a certificate? If so, I think it would be a rather hazardous principle. The admission of Dental surgeons has been altogether a difficult question, and I should say it is better that each man should, during the 'period of grace,' as it is called, have grace only for that division of the kingdom in which he lives. We must remember that we are working here for the public good, and not to put money into the coffers of the Scotch or Irish colleges. We are working here

pro bono publico, and we had better, therefore, ascertain what kind of men they are that seek our licence. I do not know what sort of people some of the Dentists are, but I should think it would be better that that grace should be limited to the division of the kingdom in which they have for five years been practising. As there is a facility for being registered, why should these men have to go to Ireland or Scotland? It must arise from some reason I do not know, and I feel I ought to be better informed before I give a vote for the alteration. I should like to know, if a man is a suitable person for registration, why should he have to go to Scotland or Ireland?

Dr. A. WOOD.—The reason is simply this, that men in practice since 1859 cannot now go to the College in England for an examination, *sine curriculo*, in order to be put in the Register; the College of Surgeons will not admit them.

Dr. STORRAR.—They can be put in the Register without examination.

Dr. A. WOOD.—You want, surely, to encourage them to come forward for examination?

Dr. STORRAR.—Not at all.

Sir W. GULL.—I think an examination which is not a real test is of no good.

Dr. A. WOOD.—But it is a real test; it is only that they have no curriculum. The College of Surgeons in England did, it is true, do it to some large extent some years ago. They gave an examination, *sine curriculo*, for a certain term of years; and all we now ask in regard to Scotland and Ireland is that the same justice should be meted to us. They might do it now I suppose if they liked, but they will not, and the object of this alteration is to give facilities to men who are anxious to become Licentiates in Dentistry, and who will not be admitted without examination, to obtain that qualification. They are to be submitted to a very testing examination, and I think this should be a most pleasing thing to Sir W. Gull, because he has said, "Let men have their education where they like, and attend what they like, but let them come to examination to be tested, and I am satisfied. I do not care a fig for attendance on lectures; let men get their knowledge wherever they best can."

Sir W. GULL.—I think, then, that we should pass a resolution calling upon the College of Surgeons in England to do this; but to pass a vote applying to Scotland and Ireland does not seem quite correct.

Mr. SIMON.—I am sorry that the representative of the College of Surgeons is not at this moment in his place; but I believe I can, in his absence, express to some extent the

position of the case. It would be something of this sort. The College of Surgeons has for many years been giving its Licence in Dental Surgery, and has made a certain education and a certain curriculum necessary for getting that Licence. There has been no time for the last twenty years in which an English Dental candidate might not have gone through that education, come up to the College of Surgeons, and got this Licence. Facilities have been given to the Colleges of Surgeons in Scotland and Ireland to proceed, if they saw fit, in the same way as the College of Surgeons in England has proceeded, and a common Register has been made for the whole Dental profession. It is very reasonable that Scotland and Ireland respectively should, in granting their qualifications for the first time in those divisions of the United Kingdom, give a period of grace to persons practising in those divisions. That is common sense. The College of Surgeons of England, of course, did that in 1859. But why should those divisions of the United Kingdom give their grace to people who have been in England all this time, who are now in England, and who, if they are without this higher Licence, are without it, if I may so express it, by contempt of the existing regulations of the division of the kingdom in which they dwell? I do submit that we ought to regard with great jealousy this going out of one kingdom into another in order to fetch a title of honour. If you will read the words on which you are debating, these men are already entitled to be in the Register, as having been in practice as Dentists before the passing of the *Dentists Act*, but they want a higher title, and are they to go out of the division of the kingdom in which they live, evading the regulations made by constituted authorities there, in order to get their title on what are, educationally speaking, cheaper terms, in another division of the kingdom? I trust that the Council will not approve of that principle. Every one here knows, I am quite sure, that I should contend just as earnestly against that principle whichever division of the kingdom it was likely to affect.

Dr. HUMPHRY.—I think there is something to be said on the other side. We have to bear in mind that now, for the first time, there is a Register of Dentists, open to all persons practising Dentistry at a given period; and all are admitted on an equality into that Register. There are many, no doubt, among those admitted to the Register who would like to show that they were not simply members admitted in virtue of having been in practice, but that they really had the qualification attaching to a diploma. My own feeling is that the College of Surgeons in England was not quite wise

in refusing that to practitioners in England. However, the reason for its doing so is an intelligible one, namely, that they thought that it would not be quite fair to those already admitted into their Register as Licentiates, and who had gone through a curriculum of study; that the admitting to their diploma men who would simply pass an examination would not be quite fair to those who had gone through their curriculum. My own feeling was that it would be better to admit those who could pass that examination, whether they had gone through the curriculum or not. Now Scotland and Ireland have instituted a diploma for the first time; and, in accordance with the plan which England adopted when its College first granted its diploma, they desire to admit all members of the United Kingdom. Bear in mind, when the English diploma was first given it was given to all members of the United Kingdom who could pass the examination, whether they had gone through the curriculum or not. Scotland and Ireland now desire to do the same, and I confess I think it is only fair to the colleges of those divisions that they should do so; and it is only fair to English practitioners that they should not be excluded from showing that they have only to pass an examination to obtain a diploma. Unless you do admit these, you are putting the English practitioners under a disadvantage, and I am sure that a practising Dentist who would, at the present moment, pass an examination would deserve a diploma better than a man who had just passed through a curriculum.

Mr. MACNAMARA.—I will second Dr. ANDREW WOOD's motion. I think there is very good reason for the Council's altering its previous recommendation. It was a recommendation carried in great haste, on the last day of our meeting. It was a recommendation that had never been remitted to the consideration of the Committee entrusted with the recommendation of the diploma. When the minutes came up for confirmation, Sir James Paget introduced this notice of motion in virtue of which the words "in Scotland" and "in Ireland" were introduced, although I protested against it. When this resolution came to the College of Surgeons in Ireland, we found that the Council had made a recommendation distinctly at variance with the Act of Parliament. The *Dentists' Act* gave us permission to do so and so, and if ever there was a case in which we should be delighted to bring this council before the Privy Council, it is this in which you are trying to take away a certain privilege from us. You have no right to take away that privilege, and supposing that resolution remains as it is it will be my duty to give notice of motion that it be a recommendation of this

Council that Licences in medicine, surgery, and midwifery shall only be conferred on candidates residing in that portion of the Kingdom in which they are granted. Nothing would be fairer, if it is law for the Dental than that it should also be law for medical, surgical, and midwifery qualifications. I implore this Council not to keep regulations on their list which they have not the power to enforce, and as to which, if they brought the recalcitrant body before the Privy Council, they would be told they had acted completely beyond their powers. I trust that for its own sake the Council will adopt Dr. Andrew Wood's resolution.

Sir W. GULL.—I will propose as an amendment that the College of Surgeons of England be requested to reconsider its determination not to grant licences *sine curriculo*. If the College refuse to do this I think it fails in a public duty; for if it is a duty to do this in Scotland and Ireland it must be a duty in England also, and it is most unbecoming that we should drive gentlemen to Scotland or to Ireland for this purpose. Perhaps mine would not be an amendment, so I will move it afterwards as a substantive motion.

Dr. FERGUS.—I will move, as an amendment, that this Council adheres to the resolution arrived at on the 26th March. The question was very carefully debated, and good reason was then shown why these restrictions should be inserted. It does no one any harm to restrict honorary titles. No doubt we shall by and by find in the *Dentists' Register* an immense number of people that we would rather not see there. (Cries of question). Well, wait till you see the Register. I think these people should go forth to the public in the same way that practitioners went forth to the public in 1815. I do not see that we have any right whatever to give extra facilities for acquiring honorary titles. I remember the reasons given in support of the recommendation were, as I thought, very strong, and I was cordially in support of that motion. I move accordingly that the Council adhere to its former resolution.

Dr. ANDREW WOOD.—You do not require an amendment, it is simply a negation.

The motion was then put, and carried by 9 votes to 7.

Sir W. GULL.—I will now propose my motion:—"That the Council of the Royal College of Surgeons of England be requested to reconsider their determination as to the non-admission of candidates for Dental qualification, *sine curriculo*, up to August, 1881."

Dr. ROLLESTON.—I will second that motion.

Mr. TEALE.—I cannot say that I quite agree with Sir Wm. Gull on this point. The case in England differs from that

which has been said about Scotland and Ireland. In England for some years we have had a body able to grant diplomas. The Dental diploma of the College of Surgeons of England has already an established rank, whereas in Scotland and Ireland, in the absence of anything of the kind, they have no diplomas yet of established value, therefore they are already entitled to a certain time of grace. To reduce the value of the English diploma by admitting a great number, *sine curriculo*, would be very hard and unfair on those who for years have been going through this extensive and tedious process.

Mr. TURNER.—Mr. Teale seems to assume that the College of Surgeons of England will admit a great number without a curriculum, but let me reply that these gentlemen are not to be admitted without an examination, and I should say that the chances are that no very great number will ever be so admitted. The examination will be carried out in all its forms, I suppose, for those gentlemen who are to appear *sine curriculo* precisely as for those who are to appear *cum curriculo*; and I should imagine that that their chances of passing are of course very much less than with those who have gone through a regular definite curriculum. Therefore, it appears to me we may very fairly pass this recommendation, without any fear that there will be a rush of persons immediately to the *Dentists' Register*, but all those who go on it will thoroughly understand their business, and will have gone through a proper examination.

Dr. QUAIN.—I shall vote for the proposal. It seems to me it will take away the excuse for going to another place. (Hear, hear.)

Dr. STORRAR.—I shall support this motion because I think it may probably serve the purpose of some eminent men who are now practising Dentistry in England without any diploma, and it will prevent the necessity of their going for that purpose where they do not desire to go. Many of those gentlemen would desire to take a diploma in the country where they have been practising, and where they propose to practise, and if it becomes a sort of fashion among Dentists to have some kind of licence instead of recording their names as having been in practice before such a date, some gentlemen may be placed at a disadvantage by having to go out of their own country against their wish to procure Licences.

Mr. SIMON.—I may state the College of Surgeons took the course it now pursues after full deliberation, and after hearing all the arguments that Dr Humphry has now used. From a certain time we allowed people to come in *cum curriculo*.

Numbers of men have come in under those conditions, and will not those men have a right to complain of us as depreciating their title as obtained *cum curriculo* if we admit others *sine curriculo*? That was the view taken by the College of Surgeons. I think I may say that the Council arrived at their decision after thorough deliberation, and they most deliberately dissented from the arguments as stated by Dr. Humphry. It is for the Medical Council to determine whether it is in accordance with their usual practice to make such a suggestion as is proposed, but I am not prepared to say that their suggestion will have the intended effect. I am not authorised to speak on behalf of the College of Surgeons, but I think it quite possible that the College of Surgeons would say, "We very much respect the General Medical Council, but on the whole we must adhere to our own policy with respect to our titles; we are not prepared to debase our currency. If Dentists of eminence practising in England would rather have the Dental Licence of the College of Surgeons of England than of the other divisions of the United Kingdom, which is very probable, it is no doubt because it has a certain educational value, and the College would, I suspect, prefer the alternative of losing the fees of these gentlemen and letting them win their honours in another division of the United Kingdom, on condition, of course that the title of Licentiate in Dental Surgery should have after it the words "Scotland" or "Ireland."

Dr. ANDREW WOOD.—"I should agree with Mr. Simon, in what he has said, if it had not been that new circumstances have arisen. At that time there was no *Dentists Act*, and no Dental licence, and therefore I shall strongly support Sir Wm. Gull. I do not want to draw men to Scotland or to Ireland if they can get their diploma in England; but I do think it fair that men who are willing to submit to a thorough examination should be able to obtain a Dental diploma in England. I think it only just that the College of Surgeons should reconsider the matter, seeing that the circumstances are different, and were not anticipated at the time they decided that men should not be examined *sine curriculo*. The College of Surgeons have already enjoyed their period of grace; they took 150 men *sine curriculo*, and I think if men are anxious to submit themselves to a full examination, it will be all the harder for them to pass that examination *sine curriculo*. England is fully entitled to the justice which I think Sir Wm. Gull wishes to give it.

Sir WM. GULL.—Mr. Simon really has forgotten that the whole circumstances are changed. This council is called

upon to make a *Dentists Register*, and I think we ought to give the Dental surgeons of England all the facilities we can. It seems to me to be a matter of public policy. The authorities of the College of Surgeons may think it best not to do this, from the point of view of keeping up the high value of their present title. That is true enough, but that is only one side of the question. They have a duty to the public under the altered circumstances. It is all very well for the College of Surgeons, but the College of Surgeons exists *pro bono publico*. I trust, therefore, that this Council will express its opinion that it would be desirable that, taking into consideration the whole matter with respect to the Dental Register, the College of Surgeons should establish an examination for men who wish to be put in the *Dentists' Register* after examination."

The motion was then put to the vote, and carried.

The REGISTRAR then read the following 'Report by the Executive Committee on Foreign and Colonial Certificates in Dentistry':—

"Thirty-five applications * have been received for the registration, under Section 10 of the *Dentists Act* (1878), of Certificates in Dentistry from the following institutions:—Harvard University, New York College of Dentistry, Baltimore Dental College, the American University of Philadelphia, Pennsylvania College of Dental Surgery, Philadelphia Dental College, Ohio College of Dental Surgery, the University of Naples, the University of Macerata, the University of Liège, the Royal College of Dental Surgery of Ontario, and the Dental Association of the Province of Quebec. Of these applicants all but three are already registered under Clause (C) of Section 6 of the *Dentists Act* (1878). The Diplomas from Harvard University, two in number, have been registered in the Foreign Dentists List, in accordance with the resolution of the Council ('Minutes for March 26th, 1879,' vol. xvi, pp. 147, 150).

"In the University of Naples there are no educational requirements; in the other institutions there is no Preliminary Examination in General Education, two years only of Professional study are required, and the examination in each is conducted solely by the teachers and officers of the institution. The Committee, therefore, having regard to the requirements of candidates for any of the Diplomas in Dental Surgery in the United Kingdom—which comprise a preliminary examination and four years of professional study—cannot recommend to the Council that the Certificates of these institutions should be entered in the *Dentists Register*."

Thereupon it was moved by Dr. Humphry, seconded by Dr. Storrar, and agreed to:—

"That the foregoing report be received, entered in the Minutes, and adopted."

This terminated the Dental proceedings at the Medical Council's Session.

* See the last paragraph in the *Registrar's Report* on p. 117 of the "Proceedings in regard to the Registration of Dentists,"

THE TOMES AND TURNER TESTIMONIAL FUND.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As inaccuracies occurred in the compilation of the first list of the Tomes and Turner Testimonial Fund, which inaccuracies I have endeavoured to correct, I should feel obliged by your kindly publishing the following list, which sets forth the amount received, and the names of the gentlemen contributing to the end of July.

I am, Sir,

Yours, &c ,

ALFRED HILL,

Hon. Sec.

List of Subscriptions to July 30th, 1879.

	£	s.	d.		£	s.	d.
Abel, A., Harrogate.....	1	1	0	Connacher, D. J., London	1	1	0
Ackery, J., Camberwell ...	1	1	0	Corke, H. C., Dalston, E.	0	10	6
Alabone, A., Isle of Wight	1	1	0	Cornack, D., London	2	2	0
Alderton, F. H., Hammer-				Cox, E., Preston	0	5	0
smith	2	2	0	Crappier, T. S., Hanley ...	1	1	0
Ashworth, H., Manchester	0	5	0	Cronin, A., London	2	2	0
Bacon, W. B., Tunbridge				Cunningham, J. T., Edin-			
Wells	1	1	0	burgh	2	2	0
Baly, C., London	2	2	0	Daish, W. H., Ryde, Isle			
Barrett, A., London.....	1	1	0	of Wight	1	1	0
Barrett, H. J., London ...	10	10	0	Daish, W. H., jun., Isle of			
Bartlett, H. P., London ...	1	1	0	Wight	0	10	6
Bate, J. S., Plymouth	2	2	0	Dally, F., Wolverhampton	1	1	0
Bell, M. L., Canterbury ...	1	1	0	Danks, J. A., Brixton	1	1	0
Bennett, F. J., London ...	1	1	0	Davis, W. C., Bristol	1	1	0
Bennett, S., London	1	1	0	Dennant, J. D., Brighton	2	2	0
Betts, E. G., London	1	1	0	Didsbury, J. M., Paris.....	0	8	0
Bever, H. A., Oxford	1	1	0	Dobbs, F., London	2	2	0
Bindermann; Worcester,				Donovan, F., London	1	1	0
South Africa	0	10	6	Fergie, W. M., Edinburgh	2	2	0
Birt, S., Brighton	2	2	0	Fletcher, J. B., London ...	5	5	0
Bödecker, A. J., Norwood	1	1	0	Fletcher, T., Warrington...	2	2	0
Bonnalie, G., Chester	1	1	0	Forsyth, W. F., London ...	5	5	0
Bradshaw, R., London ...	1	1	0	Foster, J. A., Birmingham	2	2	0
Brand, E. E., Exeter	2	2	0	Fothergill, E., Newcastle-			
Bromley, C. H., South-				on-Tyne	1	1	0
ampton.....	1	1	0	Fothergill, J. A., Darlington	0	10	6
Brown, J., Scarborough ...	1	1	0	Fothergill, W., Darlington	1	1	0
Brown, R., Tavistock	1	1	0	Fox, C. J., London	1	1	0
Buchanan, G. W., Glasgow	5	5	0	Frost, G., Pendleton	1	1	0
Buckell and Rogers, Salis-				Gartley, J. A., London.....	2	2	0
bury	1	1	0	Geekie, W., Oxford.....	0	10	6
Campbell, W., Dundee ...	2	2	0	Gibbings, A., London	1	1	0
Campion, H., Manchester	5	5	0	Gibbons, S. C., Brighton...	1	1	0
Canton, F., London	1	1	0	Gilbert, W. J., London ...	1	1	0
Carter, F. T., Leeds.....	1	1	0	Gillies, D., Derry.....	1	1	0
Chapman, W., London ...	1	1	0	Goddard & Hepburn, Not-			
Clare, E. M., Isle of Man...	0	5	0	tingham	2	2	0
Clarke, T. M., Richmond,				Goepel, J. R., Liverpool...	1	1	0
S. W.	1	1	0	Grant, J. D., Jersey.....	1	1	0
Cocker, A., Halifax.....	0	10	6	Grant, J. G., Hackney.....	1	1	0
Coleman, A., London	5	5	0	Grayson, E. F., Kendal ...	1	1	0
Coles and Balkwill, Ply-				Gregson, G., London	1	1	0
mouth	2	2	0	Greenfield, J., London.....	1	1	0

	£	s.	d.		£	s.	d.
Halliday, M. W., London...	1	1	0	Mackenzie, F. V., London	1	1	0
Hammond, G., London ...	1	1	0	Macleod, W. B., Edin-			
Hankowski, F., London ...	2	2	0	burgh	5	5	0
Hardie, J., Alloa	1	0	0	Maggs, F. C., Yeovil	1	1	0
Harding, G. H., London...	1	1	0	Magor, M., Penzance	1	1	0
Harding, T. H. & M., London	6	6	0	Mahonie, T., Sheffield	3	3	0
Harding, W. E., Shrewsbury	1	1	0	Mallet, G., Newbury	1	1	0
Hatfield, J. H., London ...	1	1	0	Margetson, W., Dewsbury	2	2	0
Heath, T. W., Richmond,				Martin, J. H., Portsmouth	1	1	0
S. W.	1	1	0	Mason, J. T. B., Exeter. ...	5	5	0
Hedgeland, J. H., Exeter	1	1	0	Matheson, L., Manchester	1	1	0
Hele, W., Carlisle	2	2	0	Melrose, E., Bolton	2	2	0
Helyar, H., Haverfordwest	1	1	0	Medwin, A. G., London ...	2	2	0
Henry, G., Hastings	2	2	0	Merryweather, Dr., Sheffield	2	2	0
Henry, H. C., London	1	1	0	Moon, H., London	4	4	0
Henry, W. F., London	1	1	0	Morison, J. C., Glasgow ...	1	1	0
Hepburn, D., Edinburgh...	1	1	0	Morley, H., Derby	2	2	0
Hepburn, D., Finchley ...	1	1	0	Mortimer, F. C., Portsea...	0	10	6
Hepburn, D., London	1	1	0	Mosely, A., Newcastle-on-			
Hepburn, R., London	1	1	0	Tyne	1	1	0
Hepburn, R. (2nd don.) ...	1	1	0	Moseley, G., Sheffield	1	1	0
Hill, A., London	5	5	0	Mummery, I. H., London	2	2	0
Hinds, J., Coventry	2	2	0	Mummery, I. R., London	6	6	0
Hockley, A. G., London ...	2	2	0	Murphy, J. E. and O. B.,			
Hogue, J. W., Bournemouth	1	1	0	Derby	2	2	0
Holland, J., London	1	1	0	Murphy, T., Bolton	1	1	0
Hooie, S., London	1	1	0	Newman, W. J., Liverpool	2	2	0
Horrocks, J., Bolton	0	10	6	Nicol, W. H., Leeds	1	1	0
Huet, F. A., Manchester...	1	1	0	Nightingale, C. G., Shrews-			
Hugo, T. G., Guernsey ...	0	10	0	bury	1	1	0
Hunt, W., Yeovil	1	1	0	Northover and Ebbetts,			
Hutchinson, S. J., London	1	1	0	London	1	1	0
Hutchinson, B. T., Cape				O'Donoghue, J., Monte			
Town, South Africa	0	10	6	Video	1	1	0
Ibbetson, G. A., London ...	5	5	0	Offord, J. T., Norwich ...	1	1	0
Imrie, W., Paris	5	5	0	O'Meara, A., Lahore, Simla	5	5	0
Inder, G. J., London	0	10	6	O'Neill, T. G., Newcastle-			
Jackson, B. S., junr., Pen-				on-Tyne	0	10	6
rith	1	1	0	Owen, R., Wolverhampton	1	1	0
Jenkin, T., Malta	1	1	0	Palmer, J. E., Peterbo-			
Jepson, A., Leamington ...	1	1	0	rough	5	5	0
Jones, W. G., Ecclehill ...	0	5	0	Palmer, T. G., Cheltenham	2	2	0
Jordon, H. W., London ...	2	2	0	Parkinson, Jas., London...	5	5	0
Karran, J., Isle of Man ...	2	2	0	Partridge, H. F., London	1	1	0
Keeling, G. R., Epsom ...	1	1	0	Paterson, A., Glasgow	0	5	0
Kelly, T., and Sons, Man-				Payne, G. W., London ...	1	1	0
chester	2	2	0	Peacock, C. J., Scarbo-			
King, C., Newark	1	1	0	rough	2	2	0
King, E. H., Godalming...	1	1	0	Pearman, G. B., Torquay	0	10	6
King, T. E., York	1	1	0	Pellow, W. T., Southampton	1	1	0
Kyan, J. H., Preston	1	1	0	Petty, F., Reading	1	1	0
Lindsay, J. B., Dover	1	1	0	Petty, F., Reading (2nd			
Lloyd, F. R., Agra, N. W.				donation)	2	2	0
India	1	1	0	Pillin, L. B., London	2	2	0
Lloyd, J. W., Liverpool ...	2	2	0	Pitowsky, A., Barnstaple	1	1	0
Longford, J. H., Dublin...	1	1	0	Read, H. B., London	1	1	0
Longhurst, S. and B.,				Read, T., London	1	1	0
London	5	5	0	Read, W., Brighton	1	1	0
McAdam, G. C., Hereford	2	2	0	Reboul, A. P., London	1	1	0
McGregor, A., London ...	1	1	0	Reid, R., Edinburgh	1	1	0
Macgregor, M., Edinburgh	2	2	0	Ritson, J. L., Penge	1	1	0

	£	s.	d.		£	s.	d.
Roberts, C. D., London ...	1	1	0	Underwood, A., London ...	1	1	0
Robertson, A., Hereford...	1	1	0	Underwood, F. K., London	1	1	0
Rogers, C., London.....	2	2	0	Underwood, T., London ...	1	1	0
Rogers, H., London.....	10	10	0	Vasey, C., London	1	1	0
Rogers, R., Cheltenham ...	1	1	0	Vanderpant, F. J., Kingston-			
Rogers, T. A., London ...	10	10	0	on-Thames	2	2	0
Rogers and Kissack, Man-				Varley, R., Watford	1	1	0
chester	3	3	0	Waite, W. H., Liverpool...	1	1	0
Rose, J. E., Liverpool.....	2	2	0	Walker, J., London	5	5	0
Ryding, F., Dublin	1	1	0	Waller, R., Cairo.....	2	2	0
Ryland, R. F., Queenstown,				Weaver, G., London	1	1	0
Cape of Good Hope.....	1	1	0	Weiss, F., and Son, London	1	11	6
Rymer, S. L., Croydon ...	5	5	0	Wells, J., Berwick-on-Tweed	2	2	0
Samuel, P. W., Stockton-				West, C., London.....	1	1	0
on-Tees	1	1	0	West, E. B., London	2	2	0
Saunders, E., London	10	10	0	Westlake, B., Windsor ...	2	2	0
Scales, H. F., Kendal	1	1	0	Whatford, J. H., East-			
Scott, J. W., London	1	1	0	bourne	2	2	0
Sewill, H., London	2	2	0	White, J. G., Glasgow.....	1	1	0
Sewill, H. (2nd don.)	3	3	0	White, H., Lincoln.....	1	1	0
Sexton, T., London	1	1	0	White, R., Norwich.....	2	2	0
Sheffield, J., London	5	5	0	Wilkinson, J., Preston ...	1	1	0
Sims, C., Birmingham.....	1	1	0	Williams, C., Leamington	1	1	0
Skeet, M. A., New Ply-				Williams, Messrs. E., and			
mouth, New Zealand ...	2	2	0	Sons, Croydon	1	1	0
Smale, C. G., London	0	10	6	Willis, W. F., London.....	1	1	0
Smith, J. A., London	2	2	0	Wilson, A., Edinburgh ...	1	1	0
Spencer, H. L., London ...	1	1	0	Wood, W. R., Brighton ...	2	2	0
Steele, J., Croydon	5	5	0	Woods, W. L., Calcutta ...	3	3	0
Stewart, J., Perth	1	1	0	Woodburn, W. S., Glasgow	2	2	0
Stewart, R. E., Liverpool	2	2	0	Woodhouse, A. J., London	10	10	0
Stocken, J., London.....	5	5	0	Woodhouse, W. H., Lon-			
Strickland, F., London.....	1	1	0	don	5	5	0
Stroud, J. W., Port Eliza-				Woodhouse, R. H., Lon-			
beth, South Africa	2	2	0	don	1	1	0
Summers, J. R., London...	1	1	0	Woodruff, W. H., Leam-			
Surrenne, J. G., Edinburgh	1	1	0	ington	1	1	0
Sutcliffe, J., Bradford.....	2	2	0	Wormald, D. A., Bury ...	1	1	0
Tindall, C., Ipswich.....	0	10	6	Wormald, S., Stockport ...	1	1	0
Tippetts, J. C., Torquay ...	1	1	0	Wright, T., London	1	1	0
Tod, E. M., Brighton	2	2	0				
Torpey, G., London.....	1	1	0	Total.....	473	14	7

The Hon. Sec. begs to announce that all intending subscribers to this testimonial should forward the amount they propose contributing without further delay, the Committee desiring very shortly to close the list.

EDINBURGH SCHOOL OF DENTISTRY, 30, CHAMBERS STREET, EDINBURGH.

THIS School being now complete in its arrangements will be opened in November.

The Hospital has been in existence for a considerable time, and from the large number of patients attending, affords excellent opportunities to students of acquiring a thorough knowledge of their profession.

The Lectures will include Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics. There will also be a class for practical instruction in Gold plugging, and a class for instruction in Practical Dental Mechanics.—JAMES ROBERTSON, Solicitor, 4 Lindsay Place, Edinburgh, *Hon. Sec.*

THE 'DENTISTS' REGISTER.'

WE are requested to announce that the 'Dentists' Register' will be published as soon as possible after the 1st of August, the issue being only delayed to allow of the insertion of the names of those doubly-dilatory practitioners who have deferred sending in their applications till the last moment.

The 'Dentists' Register' may be obtained at Spottiswoode and Co.'s, 30, Parliament Street, S.W., or at the offices of the General Medical Council, 315, Oxford Street. Price 3s. 4d., or post free 3s. 10d.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. LUTHER HOLDEN, one of the Board of Dental Examiners, has been elected President of the Royal College of Surgeons.

APPOINTMENT.

WALTER CAMPBELL, L.D.S. Eng., to be Dental Surgeon to the Royal Infirmary, Dundee.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

WINDERLING'S CELLULOID INJECTOR.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I see an account of this ingenious contrivance, in your issue of this month, and am struck by the close resemblance it bears to the late Dr. Dewar's instrument for injecting vulcanite into a flask which, like the one described for the celluloid injector, does not require to be opened for the purpose of packing, and is filled by means of a screw. An account of Dr. Dewar's machine may be found in vol. iii, p. 258, of the 'British Journal of Dental Science.'

Yours, &c.,
SAUTAL.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Reading in your esteemed Journal the report of the last meeting of the Odontological Society of Great Britain, I have seen that my injector has been the subject of a short discussion. I was astonished that the first criticism on this invention has been made by one (Mr. Oakley Coles) who had not *even seen* my injector, and who did not find it worth while even to answer to the invitation made to him by me during my stay in London. All his colleagues who did not think it any dishonour to themselves in coming to see me; and to assist at my demonstrations which I have given in London in the month of May last, have been unanimously of the opinion that my injector is very simple, and that my proceedings had the immense advantage, besides many others, of making even the most irregular Dental sets, and that it is impossible to succeed in the same way with any other presses. A very good proof of my assertions is the answer which Mr. Hutchinson has given, very much to the purpose, to Mr. Oakley Coles. I beg to add to his answer that I never concluded that dry heat is preferable to humid heat for work made with celluloid. If Mr. Coles would have visited at my demonstrations he would have seen that the celluloid, by entering the flask, passes into a humid place, where the temperature of the flask is never higher than the boiling point of water. I address the same elementary explanation to "Mechanical Dentist" and "Cellulose," who both proved, by their correspondence, that they did not understand the principle of my injector.

If "Cellulose" had been more careful, and would have followed, *in every point*, my instructions, he would not have had plates of different colour and wavy appearance.

I answer also to Mr. Turner that, with the use of my celluloid cylinders or rolls, contraction is not possible after the piece has been used during some time in the mouth.

I think it fit to repeat here the principal rule concerning celluloid. Sets in celluloid must be preserved and kept in water when they are not in the mouth. As long as they are in a humid or wet place they do not at all change their usual form.

I am, &c.,

L. N. WINDERLING.

Milan; July 9th, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you be so good as to announce that Messrs. C. Ash and Sons have kindly undertaken to dispose of an appliance for acting upon the chin, so highly spoken of in cases

of prominent underbite, in a recent discussion at the Odontological Society, and where especially the upper teeth are unduly short, and fail when pressed out to remain in front of the lower.

The appliances are made by a lady connected with the medical profession, in reduced circumstances. The cost is five shillings each.

Yours &c.,

ALFRED COLEMAN.

A PLEA FOR A GENERAL EXAMINATION IN DENTISTRY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—It was with much regret that I read in the 'Lancet' of July 26th the resolution of "the Medical Council" to shut the gates of the Irish and Scotch degrees to Dental practitioners not residing in those countries. Now, this seems very hard to a large body of skilful, honorable, and able men, who, when hospital practice and curriculum was not compulsory, entered the profession by the then generally recognised portal, viz. apprenticeship to respectable Dentists. Most of these are men of good extraction and education, and have striven hard to make themselves competent to serve their patients conscientiously and well, and now that the Registration Act has come into operation are extremely anxious to obtain by fair means some degree or diploma to distinguish them from the crowd of unworthy and ignorant rabble which claims an equality with them on the Dental Register.

I would be the last one to detract from the position of the L.D.S. of England by curriculum, but is there no lower degree that could be obtained by the great bulk of competent yet unqualified and untitled Dentists who, from force of circumstances, have been unable to go through the curriculum or up to the present time enter for the direct examinations of Dublin, Edinburgh, or Glasgow?

A modified or strictly practical examination in Dentistry alone, without going so deeply into general surgery and anatomy, as is at present done, instituted by one of the licensing bodies, and laid open to all England, would do wonders to purify the profession and bring about a more desirable state of things.

All honour to Sir W. Gull and Dr. Wood for their liberal views on the matter. The College of Surgeons at present only represents the interests of comparatively a few licentiates, and as the object of the Act was for public benefit why not put it in the power of every Dentist worthy of the name to possess a qualification proving himself worthy of public confidence.

Apologising for trespassing so long on your valuable space, and believing that I have uttered the sentiments of the majority of respectable non-qualified Dentists,

I am, &c.,

1, St. Domingo Vale, Liverpool;

J. J. MUSGRAVE.

July 28th, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—It may be of some amusement to your readers to record two very singular cases that have just come under my notice. It is not difficult to associate the idea of teeth with bones, but I have never before heard of them being taken for sugar.

Major G—, of Great Malvern, came to me, requesting a new set of teeth being made. On my asking him what had become of the set I had not long since made for him, he replied thus:—"I had taken out my teeth (as is my custom after dinner), placing them in paper. I had also folded up some loaf sugar in similar paper; my intention in doing so was to smash the sugar with my foot. In the middle of this I was called away; returning to finish my dessert I took the wrong parcel, placed the teeth under my foot; after stamping for some time, I found it did not yield as sugar. I took it up, but only to find them all in pieces, as you now see them."

Mrs. W—, of Worcester, requested me to make a new case in consequence of her loss. Said she:—"I do not know how I have lost them. I put them safely on the chair before going to sleep; it is my custom to put them in water, but I forgot, and as I did not want the trouble of getting up again, I put them on the chair." Some days passed away. She had her new case; but what had become of the old ones? It was her fancy to have a little dog in her room with her. Fido, thinking these teeth must surely be a very savoury bone, walked them off and took them down the garden. This is proved, for he buried them, and in four days he disinterred them and laid them at his mistress's feet.

Yours, &c.,

Kidderminster; July 3rd, 1879.

APPLEBY KING.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I hereby appeal to you in the hope that the £3 extra—which has been exacted from me as the fee for my registration under the Dentist Act—may be remitted. First, because the declaration to hand by last mail could not *possibly have reached me* by the 1st of January, 1879. Secondly, in the wording of the Act it appears to have overlooked that the time allowed for Dentists to register made no provision for those in the Colonies, which injustice I feel sure the authorities will take into consideration.

I need not further trouble you, feeling confident that you will represent this grievance in the right quarter, as it doubtless affects others as well as,

Yours, &c.,

GEORGE ROBINSON, M.C.S. Gt. Brit.

Eden St., Oamaru, Otago, N.Z.;

19th May, 1879.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The Bye-laws of the British Dental Association having been sanctioned and the line drawn with respect to advertising, I should like to have your opinion upon the practice of hanging frames in hairdressers' shops and hotel parlours containing the name and address of Dentists who would be highly offended if classed as vulgar advertisers; yet these modest little ornaments and the Clause No. 4 do not assimilate, and, writing as one of the heavily-handicapped Dentists who have promised to eschew all practices offensive to their college, it is only right we should all toe the line fairly alike.

The leniency of the Association in permitting the publication of the hours of attendance of those who distribute their Dental talents and abilities in a multiplicity of localities is slightly irritating to the many who prefer to concentrate their attentions at one address, using no advertisement to improve their practice but that of proficiency and assiduity. I trust the future may not cause the members of the Association to regret the premium offered to those who, for the sake of publicity, will secure a branch in the country not alone to act as a feeder to their principal address, but to be the medium of advertising it.

The time draws near when the registration list will be closed and strict scrutiny will be made into the claims of the registered. Many of the 6000 whose names are recorded are anxious for the time of ordeal to pass. Many whose insatiable greed has been the cause of their enrolling themselves among us with no claim upon the Dental profession other than that of participating in the emoluments of the future, are now seeking to hide their incapacity from the dreaded inspection, and not alone to secure their safe registry, but to ward from themselves the Nemesis their unworthiness causes them to fear. The advertisements we see inserted from time to time in local papers for "assistants who can do mechanical work," or "a few specimens for exhibition wanted," in many instances show the rottenness of their claim. I need not enumerate the whole system of tricks resorted to; they are sufficiently palpable to all, but merely mention that this abnormal Dental growth has been encouraged by a certain class of Dentists, who were only too ready to do their work and correct their models or attempts at impression taking.

I do not wish for one moment to lead you to think I desire any alteration in the bye-laws; on the contrary, I heartily support them, and consider the

executive board has given them full consideration, and taking into view the hybrid condition of Dentistry in the British Isles, nothing could meet existing circumstances better. I hope to see all comply and forward their support early, and adhere to them, until the time arrives and conditions ripen to make a healthy change. I will here take the opportunity of warning the younger members of our speciality not to lend their assistance or encouragement to the would-be Dentists who may require their temporary aid; for pitch cannot be touched without tainting those who handle it, and if left to their own resources a short period will find them *non est*.

Many of us are looking forward with anxiety to the working of the Association, and I for one will be happy to see the list of members swelling into something important, in the hope that we are approaching the time when education will disperse our narrowmindedness, and the petty jealousy which has estranged us in the past will disappear, when energetic members of the British Dental Association will encourage the growth of local Dental societies for the improvement of ourselves and pupils, and thrown open to all who comply with their rules.

Let us become unanimous in the cause, and hold out the right hand of fellowship to each other as brethren engaged in a noble work should do.

Liverpool.

Yours, &c.,

T. D., L.D.S. IRELAND.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I see by your Journal for last month, that those in power have decided to keep out of the Dental Association all who advertise or exhibit show-cases. Now, it is not denied by any right-minded person that to advertise one's profession in the papers is unprofessional. But I beg to submit that the mere exhibition of specimens is not unprofessional. For instance, the artist exhibits his picture, and he is none the less a professional gentleman for that. It has been said that a surgeon does not exhibit morbid specimens. I contend there is no analogy whatever between a morbid specimen, such as a loathsome tumour, and a set of teeth, the artist and his picture is the true comparison. Again, those who assert that a show-case is unprofessional overlook, or are ignorant of the fact, that it is the custom in Ireland for men possessing medical diplomas to keep chemists' shops, which they dignify by the name of medical halls, and it is not uncommon to see on the shop window, in white china or gold letters, the words Dr. So-and-So. Now, if it be not unprofessional for a man holding a medical diploma to sell hair-oil, wax matches, and patent medicines warranted to cure everything, how, in the name of fair play—of which we get very little from the clique in power—can it be unprofessional for a man to exhibit a set of teeth, which, if properly constructed, are as much a work of art as a picture.—

I am &c.,

Devon.

A STONEHOUSE DENTIST.

To Correspondents.

ANSWERS TO CORRESPONDENTS.

VERACITY.—Thanks; but the matter is too personal for publication.

"E. B."—See notice respecting the 'Dentists Register' at p. 436.

FRANK PETTY (Reading).—You will see the correction has been made in the list now published.

Communications received from Messrs. John Masters, Thos. Fletcher, G. Whitely, George Robinson (Otago), Appleby King, "Veracity," Alfred Coleman, F. H. Balkwill, "T. D.," "L.D.S.I.," Edwin Saunders, — Murphy, The Registrar, General Medical Council.

British Journal of Dental Science.

No. 279. LONDON, SEPTEMBER, 1879. VOL. XXII.

Editorial.

WITH this, the Students' Number for September 1st, 1879, the career of the 'British Journal of Dental Science' closes—as a monthly journal. It will reappear, with new life and fresh vigour, on the 15th of September, 1879, as a Bi-monthly or Fortnightly Journal. It has now existed twenty-two years, during twenty of which it has been conducted by its present Editor. It has ever been in the van of the march of progress; and now that from August 1st, 1879, Dentistry, as a branch of general surgery, has begun a new life—now that it is no longer to be the refuge of the unsuccessful in all other callings—now that, in the words of a western paper, it has risen to the rank of a first-class profession, we feel that the time has come when the 'British Journal of Dental Science' must show itself though old in years yet young in spirit—old with the accumulated experience of twenty-two years, young in the consciousness that a medium for more frequent communication between the members of our specialty is required—young in the recognition of the fact that young minds are daily springing into existence who require space and frequent issue to give vent to the ideas that are teeming in their brains.

We start again, then, on September the 15th with, we hope, a fresh lease of life before us—not as a *new* journal, but as the same old friend, 'The British Journal of Dental Science,' without any change in any way, save in quantity and doubled issue. As to quality, that must rest with our Readers, Subscribers, and Contributors. If our Readers will read, digest, note, and forward to us their notes, we shall improve in quality. If our Subscribers will strive to add

to the list of subscribers, we shall have the more means to enable us to supply their requirements, and thus improve in quality. If our Contributors will write, not only to show their learning, but to teach those who have it not, thus, again, we may improve in quality. But still further, if the young rising generation, who, with every facility for ready acquirement of knowledge, have thereunto added the advantage of being able to profit by the experience so hardly won in past years by their seniors and professors—if they will support and assist us by recording in our pages the results of the study of their books and hospital practice, combined with the experienced teaching of the seniors, we shall certainly improve in quality.

We appeal thus, unhesitatingly, to the younger generation to help us, remembering that to our editorial efforts they, in a great measure, owe the improved status of the profession of their choice, and remembering also that it is chiefly to meet *their* requirements that we have entered upon this new enterprise, which we trust may prove a gain to our profession, but which will most certainly entail a heavy sacrifice on our part, unless, as we confidently hope, we receive the most cordial support and assistance from all parties.

The word “parties” recalls to our mind another view of the question which we desire to lay before our readers; hitherto, Dentists have been divided into many sections, which we need not here enumerate. We ourselves have belonged to no party, enlisted under no flag but our own, and that bore upon it the words “REGISTRATION AND COMPULSORY EDUCATION;” those words, as we declared in our editorial article for October, 1870, were the watchwords of this Journal, and in carrying out this, our one great object, we opposed and fought in our pages, every individual, every party who, according to our view of the case, was acting either temporarily or permanently in such a way as to imperil the obtaining of that Act of Parliament which HAS MADE OUR WATCHWORDS THE LAW OF THE LAND.

With this one sole object in view, we have spared no one from the highest to the lowest. And in the exercise of what we conceived to be our duty have, no doubt, offended many

friends and made many enemies. For ourselves we can honestly declare that, whatever others may feel towards us, we have no personal feeling of enmity towards any one for the past, and as to the future we have no further object in view, save to benefit *all* parties by giving them a frequent medium for intercourse, and a common ground upon which they can all ventilate their peculiar views, and vie with each other in the endeavour so to harmonise with one another as to conduce best to the general good of their common profession.

We, therefore, now once more call upon all parties, all classes, to support us, and aid us in making the 'British Journal of Dental Science' a worthy representative of Dental surgery as now recognised by the law.

Dental Surgery and Medicine.

A CASE IN PRACTICE.

By EWEN MONTEITH TOD, Esq.

SOME time ago a patient came to me with a history of discomfort and of occasional "grumbling pain" referred to the right upper wisdom tooth.

On examination I found a small cavity in the crown, which I proceeded to open, thinking it a case for a gold filling of the simplest character, that probably the pulp was irritated, no more, and that I would find all uneasiness vanish (provided the pulp proved to be untouched) by the sealing up the cavity permanently from the irritant saliva.

To my surprise the patient said, "If anything has to be done I would prefer to have the tooth out rather than have it filled." I explained that I had hardly excavated it at all, and so far as I had gone could see no reason for the loss of the tooth, and warned him that the decay did not seem extensive, and that he might be sorry when he saw the tooth out.

As it had no antagonist he preferred to lose it, and so pressed the point that I at once acceded to his wish, particularly as the crown was turned towards the cheek and was of no practical use in mastication.

I used upper wisdom stump forceps, and, the tooth being but little through the gum, I pressed them well up, as, indeed, one usually does in the upper wisdom tooth. To

my surprise the outer blade seemed to crush into a large cavity under the margin of the gum. I now seized the distal wall still standing, passed my forceps well up, and removed the tooth.

I found the following state of affairs : Roots bulbous with exostosis, short, and rough at the points, showing absorption. The outer wall had been as thin as an egg shell, and had given way at once, and I found an enormous sphaclous pulp occupying the entire crown, and extending into the roots, which, from exostosis, were not very clearly defined. The pulp chamber seemed irregular and rough, as if the process of calcification had been carried on under abnormal circumstances, the pulp having died before calcification had been anything like complete, after being subject to irritation, as shown in the exostosed roots, shortened and roughened by absorption.

The patient, who is a highly intelligent man of fifty, told me that he believed the tooth had only been erupted five or six years ago, or, at least, that it was only then he first became aware of its presence. This fact, and the pathological condition of the tooth, considered, I imagine that the account of it may prove of interest.

As for the tooth itself I may add that I sent it by post to Mr. Charles Tomes with a short description of it, thinking it might interest him, or prove worthy a place in the museum of the Odontological Society, of which he is the distinguished curator, but I have not received any reply to my communication, an omission probably due to the fact that his time is so fully occupied. I am therefore unable to give a correct drawing of the tooth, but send enclosed a rough outline sketched from memory.

P.S.—I believe I omitted my usual precaution to percuss the tooth in the first instance, the fact being that I used an excavator to remove the tartar covering the crown, and that having done this I found myself excavating a little hole between the sulci of the enamel, when I was interrupted by my patient, who had determined to lose what he called a useless tooth. The excavation gave no pain, and the gums were not inflamed, but firm and healthy; still percussion would possibly have shown some tenderness, and have betrayed the state of matters at once. This was an omission in diagnosis I feel ashamed to own.

9, Old Steine, Brighton.

Chemical Department.

CONTINUOUS GUM WORK.

MR. BALKWILL'S paper on this subject in the 'British Journal of Dental Science' for August must have been written some time ago, as he has had for some weeks a special pattern of furnace for continuous gum, which I know works perfectly with gas. Using one exactly similar I fused a pile of old plain and gum teeth into a smooth rounded mass in twenty minutes from the time the gas was lighted.

If there were the slightest risk of discoloration from exceptionally bad gas or careless work, this also can be perfectly remedied by using the same furnace with benzoline, which gives a flame having no action whatever on the most delicate enamel colours, and with which a muffle is unnecessary except for the protection of the work from dust, and to prevent the heat being too suddenly applied. When benzoline is used with this furnace the heat is quite as great as with gas, and small blocks can be fused with perfect results in an open crucible entirely surrounded with the flame and products of combustion.—THOS. FLETCHER.

[Mr. Balkwill's paper on "Continuous Gum Work" was sent to press on May 25th, so we must have had it in our own possession prior to that date; at his request, however, we withheld it from publication, as he wished to make further experiments, but he subsequently asked us to publish it in the August issue, so as to keep a correct register of the progress of improvements in furnaces.—Ed. 'B. J. D. S.']

Mechanical Dentistry.

FLETCHER'S FURNACE.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

I HAVE just read a paper on "Continuous Gum Blocks" at the Western Dental Association, at which I exhibited Mr. Fletcher's furnace which was made at my suggestion, but which did not quite carry out my views, and which I do not find with Plymouth gas, which may be exceptionally bad, to succeed in two essential particulars, *i.e.* in giving heat enough, or in keeping out the products of combustion.

I should like to ask Mr. Fletcher if he has yet succeeded in making a single perfect block, say of six upper front teeth with his pattern?

According to my idea of the economy of heat the well or muffle should not be half the size and twice as deep, and the surrounding wall of the furnace should be twice as thick to prevent loss by radiation.

The furnace Mr. Fletcher sent me gets so hot in ten minutes, on the outside, as to burn the wood of the bench on which it was placed, showing that the loss of heat by radiation is too great; at the same time I have not been able to get up the heat with Plymouth gas sufficiently to do more than melt the most easily fluxed enamels.

I have not tried the benzoline, as I have found the small muffle entered horizontally opposite to the injector answers my purpose, which is not to make continuous gum work on platina plates, but smaller blocks for mounting in vulcanite.

Hospital Reports and Case-Book.

BIRMINGHAM DENTAL HOSPITAL.

THE Annual Meeting of the governors and subscribers to this hospital was held at the institution in Broad Street on the 20th of August. The Mayor (Alderman Collings) presided, and amongst those present were Messrs. J. F. West, F.R.C.S. (Hon. Consulting Surgeon), F. H. Maberley, M.R.C.S. (Hon. Surgeon Chloroformist), Adams Parker, L.D.S., Charles Sims, L.D.S., F. R. Batchelor, L.D.S., F. Sims, W. H. Neale, &c.

Mr. Allen Edwards (Hon. Sec.) read the twentieth annual report, which stated that the subscriptions had slightly increased, but were still inadequate for the requirements of the hospital. A legacy of £100 had been received by the committee, thanks to which a balance of £52 10s. remained in hand. The surgical report showed that 5832 patients had been admitted, and 6091 operations performed during the year.

The Mayor, in moving the adoption of the reports, said that he had never presided at the meeting of a charitable institution that appealed more generally to the sympathies of the people and yet received so little support as the Birmingham Dental Hospital. He believed that the hospital had great claims upon the people of the town, claims which only required bringing forward to be acknowledged. Most people

were acquainted with the suffering connected with diseased teeth, and if they only knew that an institution existed to which poor people who could not afford to pay a Dentist might apply and be relieved, he was sure it would be well supported. He noticed with pleasure the great increase that had taken place in the attendance, for it proved the institution to be a boon to the town. In 1858 only 725 were admitted, where as in 1878 the number was 8289.

The reports were adopted.

Mr. J. F. West in supporting a resolution alluded to the passing of the Dentists Act, and pointed out that the hospital was bound to play a more important part in the future now that Dental students would have to obtain instruction in Dentistry at such institutions prior to presenting themselves for examination.

The usual vote of thanks to the Mayor for presiding was moved by Dr. Maberley and seconded by Mr. Charles Sims, and terminated the proceedings.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM JULY 1ST TO JULY 31ST, 1879.

Extractions	{ Children under 14	496
	{ Adults	813
Under Nitrous Oxide		318
Gold Stoppings.....		143
White Foil ditto		31
Plastic ditto		540
Irregularities of the Teeth treated mechanically		59
Miscellaneous Cases		270
Advice Cases		101

Total..... 2771

JOHN H. MCCALL,
Dental House Surgeon.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM JULY 1ST TO JULY 31ST, 1879.

Number of Patients attended		1092
Extractions	{ Under 14	351
	{ Adults.....	493
	{ Under Nitrous Oxide	58
Gold Stoppings		56
Sheets of Gold used, independent of Pellets		105
Other Stoppings		200
Advice and Scaling		79
Irregularities of Teeth		22
Miscellaneous.....		58

Total operations

1317

WILLOUGHBY G. WEISS,
House Surgeon.

Literary Notices and Selections.

THE EDUCATION OF DENTAL PRACTITIONERS.

THE annual distribution of prizes to successful students of the Dental Hospital of London Medical School has for some years been presided over by distinguished surgeons; on consecutive years by Mr. Savory, Sir James Paget, Mr. Huxley, Mr. Le Gros Clark, and this year by Mr. Erichsen. Each President has in turn, after touching upon subjects common to prize-day addresses, given some account of the sort of training best fitted to secure competence in the Dental practice; but no one has gone into the question more fully or more successfully than Mr. Erichsen. A summary of his views may be best given by using his own words. After stating that the power to grant a licence in Dental surgery was conferred by means of the Dental Charter (1859) on the Royal College of Surgeons, he proceeded to say, "That licence has now been taken by between five hundred and six hundred Dentists. The examination which is required by the College of Surgeons embraces all those scientific and practical subjects which it is necessary for the Dentists to know; and although many Dentists go beyond this and take the membership and even the fellowship of the College of Surgeons, I can scarcely look upon such extension of professional study as being necessary to the great body of your profession. In fact, in order to obtain the membership of the College of Surgeons, it would be necessary for the Dental student to acquire an amount of technical surgical knowledge which would be utterly useless to him in after-life; and no time can be worse spent by a young man than in the acquisition of knowledge which he knows will be useless, and which he intends to throw aside and to forget as soon as he possibly can after he has obtained a diploma, for which alone he has sought to acquire it. I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it; and you may be sure of this, that the examination for this diploma, as for every other licence to practise, will not become less stringent as years go on." The opinion thus clearly expressed, in words which cannot be misinterpreted, is in strict accordance with the experience of the vast majority of those who have devoted themselves to the practice of Dental surgery, and may be accepted as conclusive.—*Brit. Med. Journ.*

Miscellanea.

To the Editor of the 'British Journal of Dental Science.'

DEAR SIR,—The enclosed have been forwarded to us to-day. We had heard before of the lady from a gentleman from Warrington, not a Dentist, and he has forwarded the papers now sent, which you may feel disposed to notice in your Journal as being something so very unusual. A man waited two or three hours to get operated upon, so great was the crowd round about the lady's carriage.

Yours faithfully,

CLAUDIUS ASH AND SONS.

7, 8, and 9, Broad Street, Golden Square,
London; August 12th, 1879.

A WONDERFUL DOCTORESS.

A GREAT sensation has been created in the town during the last few days by the advent of a very remarkable woman, whose powers, in the direction in which she exercises them, seem to be almost unlimited. Her visit was not heralded by any startling announcement, but she came quietly into the town and began operations, the result being that in a very short time people were flocking in thousands to see her. Whether she calls herself a doctor, a surgeon, Dentist, or what, we are unable to say; but her chief business seems to consist of Dentistry, though she does not confine herself to that. The lady is, of course, a foreigner, and in fact can speak hardly any English. She is said to have come from all the countries of Europe almost, but, according to her own statement, she hails from Brussels. She is staying at the Lion Hotel, where she sees patients in private, but the thing that has caused her fame to spread so far and wide with such wonderful rapidity is her public exhibition of her abilities in the fair-ground. About two o'clock each afternoon she leaves her hotel in a gilded chariot, drawn by three spanking horses decked with nodding plumes which she drives herself, and accompanied by a brass band of seven performers. She drives through the town, preceded and followed by a crowd, which grows larger every day, to the fair ground, where she makes a stand, and where, in a few minutes, she is surrounded by an immense concourse of people, who completely block up the streets all round. As soon as she is ready for work, the people begin, one at a

time, to step up into her carriage; she draws a tooth in a little less than no time, and the patient passes down on the other side. However stubborn the stump that has to be drawn, out it comes under her magic touch, and as the six jolly Dutch-looking musicians bray forth their brazen music all the time, it seems almost like some scene from a fairy tale, especially as the lady herself, who, by the way, is of rather comely appearance, is gorgeously arrayed in an oriental costume of gold and spangles. The dexterity and speed with which she extracts the teeth are really marvellous, and can only be the result of an enormous amount of practice, allied with natural defthandedness and strength of mind. All the time she smiles so pleasantly that one cannot help seeing she thoroughly enjoys it. The most extravagant stories are of course current with respect to the marvels she performs; but there is no doubt she has on several occasions drawn teeth at the rate of nearly 200 an hour; and under her gentle manipulation, with the musical accompaniment, patients seem positively to enjoy getting rid of their grinders. But drawing teeth is not the only accomplishment of this remarkable doctress. She also, with equal skill and with almost the same lightning speed, cures deafness, removes tumours, gets rid of rheumatism, in fact, deals successfully with nearly every ill that poor weak flesh is heir to, however many years the patient has been suffering. And last, but not least, in all her public performances, "there's nothing to pay." But after all, this wonderful gilded chariot, these seven stalwart Dutchmen, these three prancing horses, and the Heaven-sent healer herself cannot live solely by doing good work—for nothing; and after a few thousands of stumps have been uprooted, execution is stayed while the lady offers for sale a small phial containing a green liquid and a small oval box of pink powder, with a book of directions, for the very reasonable sum of 2s. As these priceless treasures will cure everything, they are bought up like wildfire by the excited crowd; and this is how the lady procures the wherewithal to carry on her business. Some idea may be formed of the number of bottles sold when we state, from our own observation, that she has sometimes taken close on £40 in an hour. Altogether the amount of money she is said to have taken during the short time she has been here is something fabulous. She is said to be going to stay a month; but if she continues operations at her normal speed, there will hardly be teeth enough left in the town to keep her going so long. So enormous is the execution already done, that we hear the Corporation contemplate paving one of the new streets with the heaps of

confiscated teeth now to be had. What is to become of our local Dentists and of our surgeons, too, is a matter really too serious to be thought of. We were almost omitting to state that the doctress communicates with her patients and the public through an interpreter. Yesterday (Friday) afternoon additional mystery was imparted to the proceedings by the fact that the interpreter, through excess of business, or some other unexplained cause, was so hoarse that he could hardly speak, and could not make himself heard two yards off. The services of the town-crier were therefore called into requisition, and he, with his bald head uncovered, and fully impressed with the dignity of his position, solemnly interpreted the interpreter's inaudible remarks. As this arrangement was not very satisfactory, the question naturally suggested itself, Why did the doctress not cure her servant's hoarseness? This, one would think, ought to be a simple matter to one possessed of almost supernatural powers. But perhaps she never thought of it!

THE DENTAL MANUFACTURING COMPANY, LIMITED.

ANNUAL GENERAL MEETING.

(Abridged Report.)

THE annual general meeting of the shareholders of this Company was held at the registered offices of the Company, 25, Broad Street, Golden Square, London, W., on Saturday, August 16th, 1879, D. D. HEPBURN, Esq., L.D.S., in the chair.

The CHAIRMAN stated, in proposing the adoption of the report, which *completed the Company's sixth year*, that he did so with considerable satisfaction. In their last annual report the Directors referred to the general depression in business which had been experienced during 1878. This depression, it was generally known and felt, had not diminished since that time. The Dental Company fortunately, owing to its co-operative nature, and to the continued energy of its employés, had not suffered as many concerns had done, and he felt certain that with that support from its shareholders which it was entitled to expect, its business would be materially *increased* during the coming year.

Many of the leading men in the profession in London, amongst whom he might mention Mr. C. S. Tomes and Mr. Turner, took an active interest in the Company, and the shareholders would be glad to learn that Mr. Geo. Gregson, of London, was prepared to act as a Director. This, he felt,

would give increased confidence to intending shareholders, both in London and the provinces.

Dr. D. A. WORMALD seconded the adoption of the report, and dwelt at some length on the necessity for true co-operation amongst the shareholders. He considered the Company's success, in these exceptionally severe times, as very great, and spoke strongly in favour of the assumption that their business generally improved. The Company would be found one of the best paying concerns in the kingdom.

Mr. J. S. CRAPPER supported the resolution, and thought all present would feel the same gratification as himself that the Company had so satisfactorily closed its sixth year. Various limits of time had been mentioned by some people, the most generous he had heard of giving eighteen months for the Company to stand; he would recommend those people to take the advice given lately by the chairman of a large railway company, "to refrain from further prognostications." The Dental Company was now too firmly established to be injured by foolish reports. He was glad to state that the Company's goods received high commendation on all sides, the aim being to produce nothing but first-class articles.

The report, recommending a dividend of 7 per cent., free of income tax, was unanimously adopted.

Mr. VANDERPANT proposed, and Mr. CRAPPER seconded, the election of Mr. Geo. Gregson and Mr. Jno. Mawson as Directors for the ensuing year, and also the re-election of Mr. D. A. Wormald. This was carried.

Mr. GREGSON, who was present, returned thanks for his election.

The thanks of the meeting were accorded to Mr. E. Pierrepont and Mr. Ball, the retiring Directors, for their services during the past year.

Mr. GEO. GREGSON proposed that, in accordance with a promise already made, a prize of the value of £5 5s. be given by the Company to the Edinburgh Dental Hospital. This was seconded by Mr. RANKEN, and carried unanimously.

Mr. J. W. Davison was re-elected auditor for the ensuing year, and after some of the routine business the thanks of the meeting were accorded to the Directors for their careful attention to the interest of the Company, to the Managing Director, Mr. Crapper, and to the Manager, Mr. Brewster, for his energy and assiduity during the past year.

A cordial vote of thanks to the Chairman closed the proceedings.

DENTAL LAW IN AMERICA.

TO THE DENTAL PROFESSION OF THE STATE OF NEW YORK.

YOUR attention is hereby directed to the subjoined "Act to Regulate the Practice of Dentistry in the State of New York," which passed the Senate first, and afterwards the Assembly, during the recent session of the Legislature, and became a law of the State on June 20th, 1879, by receiving the signature of the Governor.

CHAP. 540.

An Act to regulate the practice of Dentistry in the State of New York.

PASSED JUNE 20, 1879.

The people of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. It shall be unlawful for any person to practise Dentistry in the State of New York for fee or reward unless he shall have received a proper diploma, or certificate of qualification from the State Dental Society, or from the faculty of a reputable Dental or medical college, recognised as such by said society; provided that nothing in this section shall apply to persons now engaged in the practice of Dentistry in the State of New York.

§ 2. Any person who shall practise Dentistry for fee or reward in this State, without having complied with the regulations of this Act, shall be deemed guilty of a misdemeanour, and upon conviction thereof shall be fined not less than fifty, nor more than two hundred, dollars for each offence. All such fines shall be paid into the treasury of the county where such conviction shall have taken place, for the benefit of the common schools of the county.

§ 3. Every person practising Dentistry within this State shall, within sixty days after the passage of this Act, register in the office of the clerk of the county where located, in a book to be prepared and kept by the clerk for that purpose, giving his name, office, and post-office address, and the date of such registration, and shall be entitled to a certificate of such registration upon payment to the clerk of a fee of fifty cents.

§ 4. All Acts or parts of Acts inconsistent, or in anywise conflicting, with the provisions of this Act are hereby repealed.

§ 5. This Act shall take effect immediately.

The above Act originated in "The Dental Society of the

State of New York," having been proposed and endorsed at its annual meeting in May, 1878.

Section One provides that *hereafter* no person can commence the practice of Dentistry in the State of New York without having a *legal evidence* of qualification and fitness; which is defined to be either a *diploma* from a reputable Medical or Dental College, or a *diploma* from the Board of Censors of "The Dental Society of the State of New York."

But no Dentist regularly engaged in practice in this State on Friday, June 20th, 1879, need fear any annoyance or subsequent trouble from the requirements of this Act, *provided Section Three is complied with on or before Tuesday, August 19th, 1879.*

Section Two provides the penalties incurred by the infraction of this Act, *to which ALL are subject WHO DO NOT REGISTER.*

Section Three provides for the proper registration of all persons engaged in the practice of Dentistry in this State on Friday, June 20th, 1879, and requires that

Every Dentist must register

personally, in the office of the county clerk, the full name, place of business (office), post-office address (number of street, city or town, and county), and the date when the act of registering is performed, for which the county clerk is not entitled to any fee.

This must be done on or before TUESDAY, AUGUST 19TH, 1879, as this register is from that date closed.

Every Dentist having thus complied with this Act can at any time thereafter obtain, upon payment of fifty cents to the county clerk, a certificate which shall be legal authority to practise in any part of the State of New York. *Failure to register will render this impossible.*

Please take this circular with you, and show it to your county clerk.

A. M. HOLMES, Morrisville,
L. S. STRAW, Newburgh,
S. A. FREEMAN, Buffalo,

Special Committee on Dental Law.

THE ODONTO-CHIRURGICAL SOCIETY.

THE Odonto-Chirurgical Society being desirous of extending their museum so as to benefit the students of the Edinburgh Dental School, will be glad to receive any donations of subjects of Dental interest (human or comparative) towards

this object. Any donations will, if desired, be acknowledged in the 'British Journal of Dental Science.' Communications should be addressed to George W. Watson, L.D.S. Edin., Hon. Curator, at the Edinburgh Dental Hospital, 30, Chambers Street.

PRESENTATION TO MR. LAWRENCE READ, LATE HOUSE
SURGEON TO THE DENTAL HOSPITAL OF LONDON.

At a meeting of past and present students of the Dental Hospital, held on Monday, July 21st, at the hospital, Mr. Lawrence Read, the late house surgeon, was presented with a handsome timepiece in token of the high regard entertained for him by a large number, not only of the present students, but of those who had studied at the hospital during the earlier part of his term of office.

Several of those present testified to the general appreciation felt, not only by those present, but by many who were unavoidably detained elsewhere, for the way in which Mr. Read had discharged his duties, both to patients and students, while house surgeon at the hospital.

Mr. Read replied in suitable language, expressing his gratification at the feelings entertained towards him by those who had taken part in the testimonial.

[We can ourselves testify most cordially to the courteous attention we have always received from Mr. Lawrence Read, and congratulate him upon his well-earned honour.—Ed. 'B. J. D. S.']

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our
Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—Referring to me in connection with the affairs of the British Dental Association in your August issue you say that "Every Dentist has by this time received from him a paper, of which the following is a copy," and then you reprint the declaration paper of the British Dental Association. As this has led to some misapprehension on the part of many members of the profession, I must beg of you space for a short explanation.

Since my communication with you I have found that it is quite impossible to carry out my original intention in this respect, and for the following reasons:

The register is not yet published which would provide me with the names and addresses required, and if it were in my hands now it would be impossible for me to discriminate between those who have a perfect right to be on the register and those whose removal from its pages will be the primary object of the Association.

Through the kindness of Messrs. Ash I have been enabled to send out a considerable number of the declaration papers of the Association, but from letters I receive daily I see that many are waiting for a further communication from me, which, for reasons above stated, I am unable to make. I must, therefore, ask all those who are willing to support the Association to send to me at once for the declaration paper. It is the object of the Representative Board to be as economical as possible in establishing the Association, and if intending members will send in their applications to me for declaration papers, they will greatly aid the Executive in this matter.

Obediently yours,

JAMES SMITH TURNER,
Hon. Sec. British Dental Association.

WESTERN COUNTIES DENTAL ASSOCIATION.

THE First Annual Meeting was held on August 4th, and was a great success, but the late date at which we received the report, and the extreme length of it, has obliged us most reluctantly to postpone the publication of it to our next issue, on September 15th.

ANSWERS TO CORRESPONDENTS.

LICENTIATE.—It is not compulsory.

Communications received from Messrs. Allen Edwards, John Masters, J. S. Crapper, J. H. Gartrell, R. May Rew, — Ryding, Dr. Chisholm, John Albert, "An Old File," J. H. McCall, C. Ash & Sons, J. Tomes, "J. C. V.," "Finis," E. M. Tod, T. Fletcher, — Robinson, F. H. Balkwill, W. H. Woodhouse, W. G. Weiss, J. S. Turner, D. Brewster, G. W. Watson.

BOOKS AND PAPERS RECEIVED.

'Y Genedi Cymreig.' 'Calendar of Anderson's College.' 'Pharmaceutical Journal.' 'Calendar of the National Dental Hospital and College.' 'The Dental Advertiser.' 'On Eye-ball Tension.' 'Transactions of the Odontological Society of Great Britain.' 'Medical Times and Gazette.' 'British Medical Journal.' 'Lancet.' 'L'art Dentaire.' 'Dental Register.' 'The Dental Cosmos.' 'Missouri Dental Journal.' 'Transactions of the American Dental Association.' 'Correspondenz Blatt.' 'Giornale di Correspondenza dei Dentisti.' 'Western Morning News' (Aug. 5). 'Gazette Odontologique.' 'Monthly Review of Dental Surgery.' 'Chemist and Druggist.' 'Journal of the Chemical Society.' 'Glasgow Medical Journal.' 'Le Progrès Dentaire.' 'Johnson's Dental Miscellany.'

British Journal of Dental Science.

DENTAL STUDENTS' SUPPLEMENT.

SEPTEMBER, 1879.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

REGULATIONS *relating to the Diploma in Dental Surgery.*

EDUCATION.

Candidates are required to produce the following Certificates:—

1. Of being twenty-one years of age.
 2. Of having been engaged during four years in the acquirement of professional knowledge.
 3. Of having attended, at a School or Schools recognised by this College, not less than one of each of the following Courses of Lectures, delivered by Lecturers recognised by this College, namely:—Anatomy, Physiology, Surgery, Medicine, Chemistry, and Materia Medica.
 4. Of having attended a second Winter Course of Lectures on Anatomy, or a Course of not less than twenty Lectures on the Anatomy of the Head and Neck, delivered by Lecturers recognised by this College.
 5. Of having performed Dissections at a recognised School during not less than nine months.
 6. Of having completed a Course of Chemical Manipulation, under the superintendence of a Teacher or Lecturer recognised by this College.
 7. Of having attended, at a recognised Hospital or Hospitals in the United Kingdom, the Practice of Surgery and Clinical Lectures on Surgery during two Winter Sessions.
 8. Of having attended, at a recognised School, two Courses of Lectures upon each of the following subjects, viz.:—Dental Anatomy and Physiology (Human and Comparative), Dental Surgery, Dental Mechanics, and one Course of Lectures on Metallurgy, by Lecturers recognised by this College.
 9. Of having been engaged, during a period of not less than three years, in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a competent Practitioner.
 10. Of having attended at this College, or in the Dental Department of a recognised general Hospital, the Practice of Dental Surgery during the period of two years.
- N.B. The students of the London Schools are required to register the above Certificates at this College; and special Returns will be required from the Provincial Schools.

NOTE.—All Candidates who commenced their Professional Education on or after the 22nd July, 1878, will, in addition to the Certificates enumerated in the foregoing clauses, be required to produce a Certificate of having, prior to such commencement, passed the Preliminary Examination in General Knowledge for the Diploma of Member of the College or one of the Exami-

nations recognised as equivalent to that Examination. Particulars of these can be obtained on application to the Secretary of the College.

Candidates who were in Practice as Dentists, or who had commenced their Education as Dentists prior to September, 1859—the date of the Charter—and who are unable to produce the Certificates required by the foregoing Regulations, shall furnish the Board of Examiners with

*A Certificate of moral and professional character, signed by two Members of this College,**

together with answers to the following inquiries:—

Name. Age. Professional Address.

If in practice as a Dentist, the date of the commencement thereof.

Whether Member or Licentiate of any College of Physicians or Surgeons of the United Kingdom; and, if so, of what College.

Whether Graduate of any University in the United Kingdom; and, if so, of what University; and whether Graduate in Arts or Medicine.

The date or dates of any such Diploma, Licence, or Degree.

Whether Member of any Learned or Scientific Society; and, if so, of what.

Whether his Practice as a Dentist is carried on in connection with any other business; and, if so, with what business.

Whether, since the 22nd of July, 1876, he has employed Advertisements or public Notices of any kind in connection with the practice of his Profession.

The particulars of Professional Education, Medical or Special.

The Board of Examiners will determine whether the evidence of character and education produced by a Candidate be such as to entitle him to Examination.

EXAMINATION.

The examination is partly written and partly oral.

The written examination comprises General Anatomy and Physiology, and General Pathology and Surgery, with especial reference to the practice of the Dental Profession.

The oral practical examination comprises the several subjects included in the curriculum of professional education, and is conducted by the use of preparations, casts, drawings, &c.

Members of the College, in the written examination, will only have to answer those questions set by the Section of the Board consisting of persons skilled in Dental Surgery; and in the oral examination will be examined only by that Section.

A Candidate whose qualifications shall be found insufficient will be referred back to his studies, and will not be admitted to re-examination, within the period of six months, unless the Board shall otherwise determine.

Examinations will be held in January and June.

The fee for the Diploma is Ten Guineas, over and above any stamp duty.

NOTE.—A ticket of admission to the Museum, to the Library, and to the College Lectures, will be presented to each Candidate on his obtaining the Diploma.

EDWARD TRIMMER, *Secretary.*

14th Nov., 1878.

With a view to raising the Surgical (or general professional qualifications of the Dental Practitioner, the Board of Examiners in Dental Surgery at the

* N.B. In the case of Candidates in practice or educated in Scotland or Ireland, the Certificate of moral and professional character may be signed by two Licentiates of the Royal College of Surgeons of Edinburgh, or the Faculty of Physicians and Surgeons of Glasgow, or of the Royal College of Surgeons in Ireland, as the case may be.

Royal College of Surgeons of England have extended the subjects of their examinations so as to include—

In Anatomy and Physiology:

The names of the bones, and of their more important parts, and their articulations.

The names and position of the principal arteries, veins, and nerves.

The form and relations of the viscera of the head, chest, and abdomen; and an elementary knowledge of their structure.

An elementary knowledge of the structure and properties of the principal tissues.

An elementary knowledge of the functions of digestion, absorption, circulation, respiration, secretion, motion, and sensation.

The surgical anatomy and physiology of the organs of mastication, deglutition, taste, and articulation.

And in Pathology and Surgery:

Inflammation, and its consequences.

The healing of wounds.

The methods of arresting hæmorrhage.

The union of fractures.

The signs of asphyxia; and the treatment of threatened death from anæsthetics.

The injuries and diseases of the jaws, mouth, fauces, and adjacent parts.

At the examination held in June the candidates had to undergo a practical examination in filling teeth with gold and other materials, in diagnosing various cases, and explaining the uses of different instruments. These practical examinations will be continued in future.

BOARD OF EXAMINERS IN DENTAL SURGERY.

The Board consists of six members elected by the Council for five years, viz., three members of the Court of Examiners of the College, and three other gentlemen skilled in Dental Surgery. This Board conducts the examination of Candidates for the diploma in Dental Surgery of the College

The following is a list of the Board as at present constituted:

Fredk. Le Gros Clark, Chairman, 14, St. Thomas-street, E.C.

John Birkett, 59, Green-street.

Luther Holden, 65, Gower-street, W.C.

Samuel James Augustus Salter, 17, New Broad-street, E.C.

Thomas Arnold Rogers, 23, Endsleigh-street, W.C.

Henry John Barrett, 42, Finsbury-square, E.C.

SOCIETY OF APOTHECARIES, LONDON.

The Examinations in Arts for this Society will be held at the Hall of the Society during the months of January and April, and on September 19th and 20th, dates which are often more convenient to students than those of the College of Surgeons.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

REGULATIONS to be observed by Candidates for the Dental Diploma.

COURSES OF INSTRUCTION RECOGNISED.

Every candidate for the Dental Diploma must have attended the General Lectures and Courses of Instruction required, at a University or an Established Medical School recognised by the College, as qualifying for the Diploma in Surgery. The Special Courses of Instruction may have been followed in a recognised Dental Hospital or School, or by Teachers recognised by the College.

EXAMINATIONS.

The Dental Examinations shall be both Written and Oral, and be conducted in the same manner as the ordinary Surgical Examinations. The Examinations shall consist of two separate sittings, and be held subsequent to each period of the Ordinary Examinations, on such days as the College may appoint. Candidates must apply to the Secretary of the College on or before the Saturday preceding the Ordinary Examinations, and must then produce all the required certificates of having passed the Preliminary Examination, and of having attended the Lectures and other prescribed courses of instruction.

PRELIMINARY EXAMINATION.

Candidates for the Dental Diploma must produce evidence of having attained the age of Twenty-one years, and will require to produce a Certificate of having passed the Preliminary Examination in General Education required for the ordinary Licence in Surgery, or an examination equivalent to this, and recognised by the General Medical Council—except in the case of Candidates who shall have commenced their professional education previous to the first day of August, 1878.

PROFESSIONAL EXAMINATIONS.

Candidates will also be required to produce Certificates of having been engaged during four years in the acquirement of professional knowledge, and of having been during that period, or at some time previous to their examination, engaged for not less than Three years in the acquirement of a practical knowledge of Mechanical Dentistry with a practitioner registered under this Act.

LECTURES AND HOSPITAL ATTENDANCE REQUIRED.

The following Lectures and other Courses of Instruction must have been attended by Candidates for the Dental Diploma, at a recognised Medical School or Schools; and the number of Lectures in each of the general courses must correspond with those required for the Surgical Diploma of the College:—

Anatomy	...	...	...	...	One Winter Course.
Dissection and Demonstrations	...	...	...	...	Nine Months.
or					
Dissection	...	...	...	...	} Nine Months.
and					
Anatomy of Head and Neck	...	...	...	...	} One Course of Twenty Lectures.
Physiology	...	...	...	...
Chemistry	...	...	...	...	} One Course of not less than Fifty Lectures.
Surgery	...	...	...	...
Medicine	...	...	...	...	One Winter Course.
Materia Medica	...	...	...	...	One Course of Three Months.
Practical Chemistry and Metallurgy	...	...	...	...	One Course of Three Months.
Clinical Instruction in Surgery at a	...	...	...	...	} One Course of Six Months, or Two Courses of Three Months.
recognised Hospital	...	...	...	...

In addition to these, Candidates will require to have attended the following Special Courses of Lectures and Instruction by teachers recognised by this College—each Course consisting of not fewer than Twelve Lectures:—

Dental Anatomy and Physiology	...	} One Course of each.
Dental Surgery and Pathology	...	
Dental Mechanics	...	

Two Years' Attendance at a Dental Hospital, or the Dental Department of a General Hospital, recognised by the College.

Candidates who are Licentiates of this College, or who may be Registered Medical Practitioners, will require to produce Certificates of Attendance on the Special Subjects only, and will be examined in these only for the Dental Diploma.

SUBJECTS OF EXAMINATION.

The Ordinary Subjects of Examination will be Anatomy, Physiology, Chemistry (including Metallurgy), Surgery, Medicine, and *Materia Medica*; and the Special Subjects will be Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics. Anatomy, Chemistry, (with Metallurgy), and Physiology will form the subjects of the first Examination; Surgery, Medicine, *Materia Medica*, and the Special Subjects, those of the second.

TITLE AND DIPLOMA.

Those Candidates who pass this Examination shall be entitled to the designation of Licentiate in Dental Surgery of the Royal College of Surgeons of Edinburgh, and shall obtain the Dental Diploma of the Royal College.

FEES, &c.

The Fee for the Dental Diploma shall be Ten Guineas. Each Candidate, for the first Examination, shall pay to the Secretary of the College the sum of Four Guineas not later than 9 A.M. of the Saturday preceding the Ordinary Examinations; and in the event of a Candidate being unsuccessful, Two Guineas will be returned to him. Where the Candidate is successful, the sum of Four Guineas will be considered as paid to account of the Diploma. Each Candidate for the second Examination shall pay to the Secretary of the College the sum of Six Guineas not later than 9 A.M. of the Tuesday preceding the Second Examination; and in the event of his being unsuccessful Three Guineas will be returned to him. No Candidate will, if unsuccessful, be remitted for a shorter period than Three Months. These rules will apply to any subsequent rejection.

EXAMINATIONS SINE CURRICULO.

Candidates who were in practice before the first day of August, 1878, or those not in practice but who had commenced their apprenticeship as Dentists before the first day of August, 1875, and who are unable to furnish the Board of Examiners with the Certificates of Lectures and Hospital Attendance required by the foregoing Regulations, shall produce—

1. A Certificate of moral and professional character, signed by Two Registered Medical Practitioners, together with the full Name, Age, and Address of the Candidate.
2. The date of commencing practice or apprenticeship as a Dentist, and whether, if in practice, such practice has been carried on in conjunction with any other business, and if so, with what business.
3. Whether he has any Degree or Diploma in Medicine or Surgery, and if so, from what College or University, or other body, and at what time it was obtained.
4. The particulars of professional education.

The President's Council shall, on such information being afforded them, determine whether or not the Candidate is entitled to be admitted to Examination for the Dental Diploma, and such examination shall, with the exception of the Preliminary Examination, and the exemptions in favour of Registered Medical Practitioners, as before explained, be passed on the same subjects and in the same manner as is required for other Candidates, and will confer the same privileges.

FACULTY OF PHYSICIANS AND SURGEONS OF
GLASGOW.

DENTAL DIPLOMA.

1. Candidates for the Dental Diploma must have been engaged during a period of not less than four years in acquiring professional knowledge. During at least three years of that period they must have been engaged in acquiring a practical knowledge of Dentistry under a Practitioner registered under the Dental Act.

2. Candidates not exempted under Section 10 must have attended the following Curriculum:

Anatomy, 1 Course, 6 months.
 Dissection, with Demonstrations,* 9 months.
 Physiology, not less than 50 Lectures.
 Chemistry, 1 Course, 6 months.
 Practical Chemistry, with Metallurgy, 1 Course, 3 months.
 Surgery, 1 Course, 6 months.
 Medicine, 1 Course, 6 months.
 Materia Medica, 1 Course, 3 months.
 Clinical Surgery, Instruction in, 6 months.

Also the following Courses, special to Dentistry:

Dental Anatomy and Physiology,	} <i>One Course of Each.</i>
Dental Surgery,	
Dental Mechanics, with Metallurgy,	

Attendance for two years on a recognised Dental Hospital, or the Dental Department of a recognised General Hospital.

3. The Examination shall be conducted at two sittings. At the first of these the subjects shall be Anatomy, Physiology, and Chemistry, with Metallurgy. At the second the subjects shall be Surgery, Medicine (with Materia Medica), and the subjects special to Dentistry.

4. The Examination shall be conducted both by written papers and oral questions. Preparations, casts, instruments, drawings, &c., may be employed at the discretion of the Examiners. Candidates may also be tested in manipulative skill.

5. The Fee for the Dental Diploma shall be ten guineas, four guineas being deposited with the Secretary on entering for the first part of the Examination, and six guineas on entering for the second part.

6. Unsuccessful candidates are remitted to their studies for a period to be determined by the judgment of the Examiners, but in no case for less than three months.

7. In the case of a candidate being unsuccessful at the first part of the Examination, the sum of two guineas of the fee deposited shall be retained to meet the expenses of the Examination. At the second part of the Examination, the sum of three guineas shall be retained for a similar purpose from the fee of every unsuccessful candidate. In both cases the remainder of the fee shall be returned to the candidate.

8. Candidates already qualified under the Medical Act shall be required to produce only the certificates of attendance in the subjects special to Dentistry, and shall be examined in these subjects only.

9. All candidates who commenced their professional education on or after 1st August, 1878, must produce a certificate of having passed the Preliminary Examination for the ordinary Surgical Diploma of the Faculty, or one of the examinations recognised as equivalent to it.

10. Candidates in practice as Dentists before 1st August, 1878, and registered under the Dental Act, who are unable to produce the certificates required under Section 2, shall produce a certificate of moral and professional character, signed by two registered medical practitioners. They shall also fill up a form of application in which they will furnish replies to certain questions as to age, length of period in practice, professional education and status, &c. Copies of this form may be had on application to the Secretary of the Faculty.

11. The Council of the Faculty shall have absolute power to determine what candidates are to be admitted under the foregoing Section (10).

12. Every candidate, before being admitted as a Licentiate, must be not less than 21 years of age, and shall subscribe a declaration engaging not to advertise, or pursue any other unprofessional mode of attracting practice.

* A Course of 20 Lectures on the Anatomy of Head and Neck may be substituted for Demonstrations.

13. Licentiates in Dentistry of the Faculty shall be entitled to consult books in the Library. They shall also have the same right of admission as Licentiates in Surgery to any lectures which may be delivered in connection with the Faculty Lectureship.

14. The Examinations will be held quarterly. Candidates are required to enter at least four days before the period of Examination.

15. The following will be the periods of Examination for 1879 :

TUESDAY, 22nd April.

FRIDAY, 11th July, and SATURDAY, 12th July.

TUESDAY, 21st October, and WEDNESDAY, 22nd October.

And the following will be the periods for 1880 :

TUESDAY and WEDNESDAY, 20th and 21st January, 1880.

Do. do. 20th and 21st April, 1880.

THURSDAY and FRIDAY, 29th and 30th July, 1880.

TUESDAY and WEDNESDAY, 26th and 27th October, 1880.

On each of these occasions the Examination will commence at Ten o'clock.

The Lectures at Anderson's College qualify for the Dental diploma.

ANDERSON'S COLLEGE, GLASGOW.

LECTURERS.

Dental Anatomy and Physiology.—J. CROOKS MORISON, L.D.S. Eng.

Dental Surgery and Pathology.—J. R. BROWNLIE, L.D.S. Eng.

Dental Mechanics and Metallurgy.—W. S. WOODBURN, L.D.S. Glasg.

Secretary to the Dental Lecturers.—J. CROOKS MORISON, Esq., 341, Bath Crescent, Glasgow.

DENTAL ANATOMY AND PHYSIOLOGY.

By JOHN CROOKS MORISON, L.D.S. Eng.

This Course will not be confined to a description of the Teeth of Man, but will, as far as time allows, embrace a view of the Comparative Dental Anatomy of the other Vertebrates. The following order will, as far as possible, be adhered to in treating the subject:—An Outline of the General Characters of the Teeth, with regard to their various uses, forms, structures, and positions in Man and other Animals.—The Teeth of Mammals generally Monophyodonts and Diphyodonts.—The Human Dentitions—Permanent and deciduous.—The Structure of the Teeth in Man and of their different Tissues—Cement, Enamel, Dentine, and Pulp.—Development, Eruption, and Succession of the Teeth.—The Methods by which the Teeth are attached to the parts which support them.—Development of the Maxillary Bones, and their correlation to the growing Teeth.—Some Points in the Anatomy of the contiguous parts of special importance to the Dental-Surgeon. In all the Lectures attention will be directed to those points, a knowledge of which is useful in Dental Practice, either in Extracting, Regulating, or Stopping Teeth, or in other operations. The Lectures will be delivered in the Summer Session, on the Mornings of Wednesday and Friday, at 8 a.m., and will be illustrated by Diagrams, Preparations, and Microscopic Specimens. Text-Book—Tomes' Manual of Dental Anatomy, Human and Comparative. Number of Students who attended these Lectures in the Summer Session of 1879 was 12.

DENTAL SURGERY AND PATHOLOGY.

By JAMES RANKIN BROWNLIE, L.D.S. Eng.

THE FIRST DENTITION.—Retarded and difficult Eruption. Diseases of and associated with the temporary set. Absorption. Retention. Relation to permanent set, and treatment in connection therewith. THE SECOND DENTITION.—Succession, including the principal variations as to time, position, and number. Treatment of irregularity. Diseases and abnormal conditions of, and arising from, the permanent set. Operations upon the permanent set for the arrest of Dental caries; the relief, preservation, and destruction of the pulp; alveolar abscess; extraction; hæmorrhage; replantation, &c.

The Maxillary Bones, Alveolar Processes, and Gums.—Injuries. Fractures. Necrosis. Congestion. Inflammation. Ulceration. Stomatitis. Tumours. Cysts, &c. These Lectures are delivered on Tuesdays and Thursdays, during the Months of May and June, at 8 a.m., and are illustrated by recent Specimens, and other Preparations, and Drawings, &c. Text-Books—Tomes' Manual of Dental Surgery; Salter's Dental Pathology and Surgery; Harris' Principles and Practice of Dentistry. Number of Students who attended these Lectures in the Summer Session of 1879 was 15.

MECHANICAL DENTISTRY.

By W. S. WOODBURN, L.D.S. Glasg.

Commencing on the first Thursday of October, at Eight o'Clock p.m.

The preparation of the Mouth for the reception of Artificial Teeth.—The different Materials employed in taking impressions, and the methods of using them.—How to take Guides or Articulations.—Casting of Models in Plaster and Metals.—Metals used in Dentistry and their Metallurgy.—Making Plates for edentulous Mouths, and partial Pieces.—Working the different kinds of Artificial Teeth.—Pivoting Teeth.—Vulcanite—Celluloid and Continuous Gum Work.—Regulation Plates and Obturators. This Course will consist of 12 Lectures, with Practical Demonstrations in the Dental Laboratory.

All communications on matters relating to the Dental School should be addressed to J. CROOKS MORISON, Esq., 341, Bath Crescent, Glasgow.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

DENTAL DIPLOMA REGULATIONS.

The Examinations up to the 1st day of August, 1881, shall be of a practical character, embracing the Anatomy, Physiology, Surgery, and Pathology of the Teeth, Jaws, and surrounding parts, and Mechanical Dentistry, and shall be partly written and partly oral.

All Candidates shall lodge with the Registrar of the College, at least one fortnight previous to each Examination—

- I. A Certificate of having attained the age of 21 years.
- II. Certificates from two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the Candidate is of good character, has been engaged in the practice of Dentistry for at least five years, and has refrained from advertising or other unbecoming modes of attracting business for at least two years previously.
- III. A Certificate of having lodged in the Bank of Ireland, to the credit of the College, the fee of Ten Guineas, half of which shall be returned to any Candidate who fails to satisfy the Examiners.

After the 1st day of August, 1881, no Candidate shall be admitted to Examination who has not pursued the following curriculum, and lodged with the Registrar of the College, at least a fortnight previous to Examination—

- I. A Certificate of having attained the age of 21 years.
- II. A Certificate of having been engaged during four years in the acquirement of professional knowledge.
- III. Certificates from two Fellows or Licentiates of any College of Surgeons in the United Kingdom, and from two Dentists of repute, testifying that the Candidate is of good character.
- IV. A Certificate of having passed the Examination in Preliminary Education of one of the Examining Bodies recognised by the General Medical Council.
- V. A Certificate of having lodged in the Bank of Ireland, to the credit of the College, the fee of Ten Guineas, half of which shall be returned to any Candidate who fails to satisfy the Examiners; and no Candidate can present himself for re-examination for six months.
- VI. Certificates of having attended in a recognised school—
One Course of Lectures on Anatomy and Physiology.

Two Courses of Dissections, with Demonstrations.

One Course of Lectures on Surgery.

One Course of Lectures on Chemistry.

One Course of Practical Chemistry, and Metallurgy.

One Course of Lectures on Materia Medica, and

Two Courses of Lectures on Dental Surgery, including Dental Mechanics.

VII. Certificates of having attended General Hospital Practice for two Winter Sessions, and the Dental Department of a General Hospital, or a Special Dental Hospital, for a further period of nine months.

VIII. A Certificate of having been engaged during at least three years in acquiring a practical knowledge of Dentistry, under the instruction of a Registered Licentiate in Dentistry of one of the Licensing Bodies.

The Examinations shall include all the subjects of the foregoing curriculum, and shall be partly Written and partly Oral, preparations, microscopes, and other appliances being used.

Licentiates in Surgery, or Fellows of any College in the United Kingdom, and Graduates in Surgery of any University recognised by this College, will be examined only in subjects special to Dentistry.

N.B.—Every successful Candidate previous to receiving the Licence shall declare that he will not advertise, or pursue any other unbecoming mode of attracting business, so long as he holds the Licence in Dentistry of the College.

THE DENTAL HOSPITAL OF LONDON AND MEDICAL SCHOOL, LEICESTER SQUARE.

If the foregoing Curriculum be examined, it will be seen that the subjects embraced in it may be arranged under two heads, viz., those which are common to a general Medical education, and those which pertain specially to Dental Surgery.

It has been felt by the founders of the London School of Dental Surgery that the opportunities afforded to the Student at the existing Medical Schools and General Hospitals, for the acquirement of a knowledge of those subjects embraced in an ordinary Medical education, could not be equalled by a special School. While, on the other hand, the opportunities offered by a special School in connection with the Dental Hospital for the instruction of Pupils on the subjects which specially relate to Dental Surgery, would be much greater than could be secured in an institution devoted to general Medical education.

Hence in the formation of the London School of Dental Surgery, provision has been made for teaching those branches of science only which pertain specially to Dentistry; and the School has been organised in connection with the Dental Hospital of London, in order that practical instruction in subjects specially pertaining to Dental Surgery may be accompanied by systematic teaching, under the conditions enjoined by the Curriculum.

The Hospital was opened on Monday, October 3rd, 1859, for the reception of pupils, who receive practical instruction from the Dental Officers, and, when sufficiently advanced, are entrusted with the treatment of cases.

The Lectures on the subjects specially pertaining to Dental Surgery (excepting those upon Mechanical Dentistry) and Metallurgy are given during the Summer Medical Session, in order that Students may be at liberty to attend at any of the existing Medical Schools those lectures enjoined by the Curriculum upon subjects which are not peculiar to Dental Surgery.

DENTAL HOSPITAL.

Dental Officers, and the days and hours of Hospital attendance.

Consulting Physician.

SIR THOMAS WATSON, Bt., M.D.

Consulting Surgeon.

MR. CHRISTOPHER HEATH, F.R.C.S.

Consulting Dental Surgeons.

MR. SAMUEL CARTWRIGHT, F.R.C.S.

MR. JOHN TÓMES, F.R.S.

*Dental Surgeons.**Assist.-Dental Surgeons*

9 a.m.	Monday ...	MR. CHARLES JAMES FOX...	MR. FREDERICK CANTON.
"	Tuesday ...	" A. GEORGE MEDWIN ...	" ASHLEY GIBBINGS.
"	Wednesday	" GEORGE GREGSON	" DAVID HEPBURN.
"	Thursday	" ALFRED COLEMAN	" R. H. WOODHOUSE.
"	Friday.....	" HENRY MOON	" WM. P. BARTLETT.
"	Saturday...	" ALFRED HILL	" S. J. HUTCHINSON.

Anæsthetists.

MR. CLOVER	Tuesday and Wednesday
MR. BRAINE	Friday and Saturday.
MR. BAILEY	Monday.

*Demonstrator.**Medical Tutor.*

MR. CLAUDE ROGERS.

MR. STORER BENNETT.

*House-Surgeon.**Assistant House-Surgeon.*

MR. J. H. MCCALL.

MR. J. B. MAGOR.

*Hon. Sec.**Secretary.*

MR. G. A. IBBETSON.

CAPTAIN H. B. SCOONES.

DEMONSTRATIONS.

The medical officers will make every effort to give Demonstrations to the junior pupils, on cases selected from time to time, every morning during the Lecture Session; and at the end of the Course those gentlemen who have attended the Demonstrations to the satisfaction of the medical officers will be permitted to perform operations at the Hospital under the supervision of the medical officers and the House Surgeon. Those of the senior students who can spare the time will also be very welcome to attend; but it is requested that the juniors whose names are on the list of the surgeons of the day will be allowed the best places for seeing the Demonstrations.

Dresserships for Cases of Extraction.

These appointments are held for two months, and consist of six Senior Dresserships for extractions under anæsthetics, and eighteen Junior Dresserships for ordinary extractions.

The Senior Dressers will be selected from those pupils only who have entered fully both to the Practice and Lectures of this Hospital, and also to the Course required by the College of Surgeons for the Licence in Dental Surgery at one of the General Hospitals.

MEDICAL SCHOOL.

LECTURES.

Dental Surgery and Pathology

MR. ALFRED COLEMAN, F.R.C.S. (Exam.), L.R.C.P., L.D.S., &c.

THE FIRST DENTITION:—Conditions normal and abnormal. Treatment to be pursued in latter. Period of eruption of the temporary Teeth. Diseases and conditions peculiar to the temporary Teeth. Treatment of same. Absorption of temporary Teeth. Conditions interfering with same, and consequences thereof.

THE SECOND DENTITION:—Conditions normal and abnormal. Order and period of eruption of irregularities in the permanent Teeth, in size

form, number, and position. Treatment of irregularities in position. Dislocation, fracture, and other injuries to the Teeth.

DISEASES OF THE TEETH:—Dental Caries; its nature and various forms. Theories of Dental Caries. Treatment of Dental Caries by excision, by stopping, or filling. Pathological conditions of the Dental Pulp. Treatment of same when exposed by injury or disease. Preservation of the Dental Pulp. Destruction of same. Dental Necrosis, Exostosis, &c.

DISEASES OF THE PERIODONTAL MEMBRANE:—Congestion. Inflammation. Suppuration. Alveolar Abscess. Pathology. Treatment, &c., of Extraction of Teeth. Difficulties and complications in Alveolar Hæmorrhage. Anæsthetics in Dental operations.

NECROSIS OF ALVEOLI:—Dental Fistulæ. Closure of Jaws by Cicatrices. Diseases of Gums. Congestion. Inflammation. Ulceration. Stomatitis: follicular, ulcerative, and gangrenous. Tumours of parts adjacent to the Teeth. Dental and Dentigerous Cysts. Neuralgia, &c.

These Lectures will be delivered on the Mornings of Tuesday and Friday, at 8 o'clock, during the months of May and June. Recent Specimens, Preparations, Models, Drawings, &c., will be used to illustrate the Lectures.

Dental Anatomy and Physiology (Human and Comparative).

Mr. C. S. TOMES, F.R.S., M.A., M.R.C.S., L.D.S.

GENERAL SCOPE OF ODONTOLOGY:—General Characters of Teeth, as to composition, form, position, &c.

THE DENTAL TISSUES:—Enamel. Distribution of, peculiar modification of, &c. Dentine, structure, &c., relation of to Bone, Vaso-dentine and Osteo-dentine. Cementum. Structure, distribution, &c. Dental Pulp, structure, modification in advanced age, &c.

THE DEVELOPMENT OF TEETH:—General Account of, as seen in Fish, Reptiles, and Mammals. Special modifications in particular groups. Relation of modern views to those held by Goodsir, &c.

THE DEVELOPMENT OF THE JAWS:—Their bearing upon Irregularities of the Teeth.

THE ATTACHMENT OF THE TEETH:—By Membrane, by Anchylosis, by Implantation in Sockets. The relations existing between these three methods.

THE TEETH OF MAN.

ANATOMY OF CHIEF ASSOCIATED PARTS.

An outline (so far as time may allow) of the Dentition of other Vertebrates.

Causes operating to modify an animal's dentition:—(1) Inheritance; (2) Armament for sexual warfare; (3) Provision for capture and comminution of food.

Fish:—Examples of typical dentitions.

Reptiles:— Ditto.

Mammals:— Ditto. Examples of extreme modifications for particular purposes. Character of Marsupial Dentition; of Carnivorous, Insectivorous, Rodent, and Herbivorous Dentitions.

These Lectures will be delivered on the Morning of Wednesday and Saturday, at 8 o'clock, during the months of May and June. This course will be illustrated by Preparations, Diagrams, and Microscopic Examinations.

Mechanical Dentistry.

Mr. J. S. TURNER, M.R.C.S., L.D.S.

Comprising the Preparation of the Mouth for Artificial Teeth. Impression-taking in Wax Composition and Plaster of Paris. Mould-making in

Plaster and Metal. Bites or Articulations. The Metals used in Dentistry. Gold-melting, Refining, and Alloying. Plate-making. Artificial Teeth their qualities and arrangement. How to work Tube and Pin Teeth. Vulcanite, its nature and preparation. Making Vulcanite Cases. Making Pivots. Mounting Spiral Springs. Regulation Plates. Dr. N. Kingsley's Method of making Soft Rubber Obturators.

This Course is illustrated by diagrams and practical demonstrations.

These Lectures will be delivered on the Evenings of Wednesday, at 7 o'clock, during the months of October, November, and December.

Metallurgy in its application to Dental Purposes.

Mr. G. H. MAKINS, M.R.C.S., F.C.S.

The Lectures delivered in this Course, while embracing, as far as possible, the subject generally, will be devoted more particularly to those metals useful in Dental practice.

The general properties of the Metallic Bodies will first be examined, and also their Chemical relations to the non-Metallic. Some consideration will then be given to heating appliances, and to the nature and uses of Gaseous and Solid Fuels. After these the metals will be separately treated of, commencing with the noble, and ending with the base metals.

Throughout the Course, such chemical and Mechanical points as may bear upon the Student's pursuits will be treated of, and methods of analysis detailed.

These Lectures will be delivered on the Mornings of Tuesday and Friday, at 12 o'clock, during the months of October and November.

MEDICAL TUTOR.

The Medical Tutor holds classes on four days in the week, for two months previous to each of the two Annual Examinations. These classes are intended to prepare Students for the Examinations at the College of Surgeons, and are open to all Students of the Hospital. All Students who desire to attend these classes must apply to the Dean for permission to do so, and they will attend in the order arranged by him.

The Winter Session will commence on the 2nd October, when a short address will be given by the Dean at 9 a.m.

The Medical Officers will commence their Demonstrations on the 2nd.

Mr. Turner will give his first Lecture on Mechanical Dentistry at 7 p.m. on the 3rd, and will lecture at the same hour on every Wednesday till the end of the course.

Mr. Makins will give his first lecture on Metallurgy at 12 o'clock on the 6th, and will lecture at the same hour on every Tuesday and Friday till the end of the course.

The Dean will be much obliged to gentlemen purposing to attend the lectures if they will either send in their names to him as soon as possible, or, if more convenient to them, if they will give their names to the Hall Porter.

The Dean will attend at the Hospital in the afternoon from 5 to 6 o'clock, from September 24th to October 6th inclusive, and on Wednesday mornings from 9.30 to 10.30, to see gentlemen desirous of entering as pupils, or who may wish to consult him on the subject of their studies.

Further information can be obtained from the Dean, Mr. T. F. KEN UNDERWOOD, at the Hospital.

The Demonstrator gives practical Demonstrations, more especially in Gold Filling, every day in the Operating Room from 11 to 1 o'clock. These classes are open to all Students who attend in the order arranged by the Dean.

GENERAL FEE FOR THE SPECIAL LECTURES REQUIRED BY THE CURRICULUM.

Two Courses on Dental Anatomy	} £15 15
" Dental Surgery	
" Mechanical Dentistry.....	
One course of Metallurgy	

FEES TO SINGLE COURSES.

Dental Anatomy and Physiology, one course	£3 3
„ „ two courses.....	5 5
Dental Surgery, one course	3 3
„ two courses	5 5
Dental Mechanics, one course	3 3
„ two courses	5 5
Metallurgy, one course	3 3
„ two courses.....	5 5
Fee for the Two Years' Dental Hospital Practice required by the Curriculum	£15 15

Total Fee for the Special Lectures and Hospital Practice required by the Curriculum, **£31 10s.**

Students who perform Operations for Filling Teeth must provide their own Instruments for the same.

Further particulars may be obtained on application to the Dean, Mr. T. FRANCIS KEN UNDERWOOD.

PRIZES.

In consequence of the great difficulty in making the necessary arrangements for the public distribution of prizes in October, the Prize-day is held at the commencement of the Summer Session, and the next will take place at the beginning of May of next year.

1. Prizes are awarded by the Lecturers for the best examinations in the subjects of their respective courses, at the end of the Summer and Winter Sessions.

2. Arrangements are being made for a prize of Operative Dentistry, in the competition for which each candidate will be entrusted with the care of a mouth, which he shall, if not impracticable, set thoroughly in order. Candidates will be liable to conditions 1, 2, and 4 for the Saunders Scholarship (see below). Further notice will be given.

N.B.—a. The above constitute the “Class Prizes,” by which are understood prizes for subjects regularly taught in the school, awarded and given by the Medical Staff, and entirely subject to their control.

β. Second prizes will not be awarded when the best paper obtains less than 75 per cent. of full marks; and no second prize will be given unless the second best paper obtains at least 75 per cent. of the marks obtained by the first.

γ. First prizes will be of the value of £3 10s. Second prizes will be of the value of £1 10s.

δ. In any question of doubt relative to the award of a prize, the matter will be referred to the Medical Committee, whose decision will be final.

3. A prize of the value of five guineas will be given by Mr. George Buchanan, of Glasgow, for the best paper on the following subject:

“On the evidence at present available as to the chemical and physical properties and the electrical relations of the various materials used as fillings, and the inferences to be drawn therefrom as to their comparative value.”

The conditions under which this prize is to be competed for are the same as those for the Saunders Scholarship (see below), except that for condition 3 the following is substituted:—“The Candidate must be a second year’s man.” The papers must be sent in to the Dean before the end of December 1878. Each paper is to be distinguished by a motto, within which is to be also written on the outside of a sealed envelope, within which is the author’s name.

4. The Dean’s Prize for 1879 will be suspended.

5. A scholarship of the value of £20 has been founded by Mr. Edwin Saunders, and the next award will be made in July, 1880, to the student

who shall have obtained the largest number of First Class Prizes during the Winter Session of the year 1879, and the Summer Session of the year 1880; and in future years, the Scholarship will be awarded to the Student who has obtained the largest number of First Class Prizes during the Winter and Summer Sessions preceding the July in which the award takes place; but who—

- 1st. Must have entered to and paid in full the fees for all the lectures, practice, and other matters required by the Royal College of Surgeons of England as a qualification for the Dental Diploma of the said College.
- 2nd. He must have entered and paid his fees in full at this hospital for all the special lectures, practice, and other matters required by the said college as a qualification for the said diploma.
- 3rd. He must have commenced his studies at this hospital since the August twelvemonth preceding the July in which the scholarship shall be awarded.
- 4th. He must, on entering the hospital, have signed a declaration of his intention to present himself for examination for the said diploma.
- 5th. His attendance at the lectures and practice of this hospital must have been such as to be satisfactory to the Medical Committee, and to suffice for obtaining the proper signatures to the schedule of the College of Surgeons for the Dental diploma.

* * In awarding the Saunders Scholarship, the possession of First Prizes *only* is to be taken into account; except, in the event of two or more Students holding an equal number of First Prizes, in which case the possession of Second Prizes will be taken into consideration. Class Prizes *only* shall count in the competition for the Saunders Scholarship.

Note.—The Medical Committee have resolved, that the holder of the Saunders Scholarship be admitted without additional fee to an extra year of hospital practice."

Rules and Regulations to be observed by Students of the Dental Hospital.

1. Students entering the practice of this Hospital shall (unless exempted for special reasons) do so upon the understanding that it is their intention to obtain the Dental Diploma of the Royal College of Surgeons of England. Before commencing their course of Studies they must sign their names as willing to conform to this rule and the following regulations.

2. Students must attend the Hospital daily (except Sundays) at 9 o'clock a.m., and upon entering the Hospital must sign their names in the Attendance Book. The attendance of Students will be submitted monthly to the Medical Committee, and no Schedules will be signed unless their attendance on Hospital Practice and at Lectures has been satisfactory.

3. No Student shall, unless specially authorised, undertake any operation during the first two months of his Hospital Practice. When permitted to undertake operations for filling teeth, he must provide the instruments requisite for the same. For all cases of gold filling, permission must be obtained of a Medical Officer.

4. No Student shall, under any circumstances, receive fee or remuneration from any patient attending, or to whom he may have become known whilst attending the Hospital, and no mechanical work in the form of artificial teeth shall be supplied to a patient by a Student of the Hospital.

5. Students must be punctual in their appointments with Patients; when otherwise, cases previously under their care will be entrusted to other Students by the Medical Officers.

6. No Student shall make use of the same Operating Chair for Patients consecutively, whilst other Students are unoccupied for the want of the same.

7. All instruments and appliances the property of the Hospital shall, after having been used by a Student, be returned cleansed to their proper places.

8. Students must consider themselves strictly under the control of the

Medical Officers of the Hospital. All unnecessary conversation must be avoided, and quietude and gentlemanly bearing before the Patients observed.

9. Any exemption from fully carrying out Rules 1, 3, and 4, can only be obtained from the Medical Committee upon grounds that may appear to them good and proper for granting such exemption.

10. Leave of absence must be obtained from the Dean, to whom in case of sickness, or other unavoidable cause of non-attendance, *written* notice is to be immediately sent.

N.B.—Students will be required to attend the Lectures and Practice during the Two Years, CONSECUTIVELY, except with the special written permission of the Dean. By a Resolution of the Council of the College of Surgeons, all Students entering on and after October 1st, 1877, will be required to complete the FULL TWO YEARS OF HOSPITAL PRACTICE.

In future, at the close of the Winter and Summer Sessions, the Dean will prepare a report of the attendance, general conduct, and character of each Student, which will be forwarded to his Parent or Guardian. A copy of these reports will be kept for future reference.

CALENDAR OF THE DENTAL HOSPITAL OF LONDON.

A very complete and comprehensive publication under this title has been published under the supervision of the late energetic Dean, Mr. Thomas Arnold Rogers. We have endeavoured in this and past years to supply the want of such a publication by our Students' Number; but an official paper such as we allude to cannot fail to be of great value.

We have hitherto republished therefrom a series of tables showing how the full curriculum can be fulfilled in two years, but from the pressure on our space we must in future refer students to the Calendar itself, which can be obtained personally or by letter addressed to Captain Scoones, the Secretary to the Hospital.

The student is permitted to use the library of the Odontological Society for works of occasional reference, under certain regulations, of which he will receive notice on entering at the Dental Hospital.

The student of Dental Surgery is strongly recommended to take the diploma of a full Member of the College of Surgeons; if possible, that of Fellow; but at all events, of Member, as well as the Dental Diploma. The extended course of study ensures, *ceteris paribus*, a deeper acquaintance with the principles of medicine; and the possessor of the full diploma also necessarily takes a higher position in professional estimation than the holder of the special diploma only. This, however, involves a larger expenditure of time and money; and four years' attendance on lectures and hospital practice will hardly be too much for the attainment of the Dental Diploma and that of membership of the College of Surgeons.

The lectures on anatomy, physiology, surgery, medicine, materia medica, chemistry, and practical chemistry, attended by the Dental student, suffice also for the surgical diploma. The additional lectures are—

One course of thirty lectures on practical anatomy and physiology.

Three months' course of pathological anatomy.

One course of forensic medicine.

One course of midwifery with practical instruction.

Six months' practical surgery.

Three months' practical pharmacy.

Instead of two winter sessions of surgical practice, three winter and two summer sessions are required; and also one winter and one summer session of medical practice. Instead of nine months' dissections, two winter sessions are necessary; and a six months' dressership is also required, with one or two minor matters easily accomplished.

In the Calendar a sketch is given of the way in which the two curricula can be fulfilled.

NATIONAL DENTAL HOSPITAL AND COLLEGE, 149, GREAT PORTLAND STREET.

The Hospital is open for the reception of patients every week-day from 9 o'clock till 11 o'clock a.m.

DRESSERSHIPS IN THE EXTRACTION ROOM.

These appointments are held for three months by six senior and six junior Students of the Hospital. The respective dressers for each day are required to be in attendance from 9 o'clock till the conclusion of the practice; and they will be under the direction of the Dental Surgeons for the day.

CLINICAL LECTURES AND DEMONSTRATIONS.

Each Medical Officer will give two Clinical Lectures during the year. Clinical Lectures will also be given from time to time on cases of particular interest; also Demonstrations upon the Preparing and Filling of Cavities, and other operations upon the teeth and contiguous diseases.

The rules and regulations to be observed by students at this hospital are the same in effect as those of the Dental Hospital of London.

LECTURES.

Winter Session, 1879—80.

DENTAL ANATOMY AND PHYSIOLOGY, by Mr. THOMAS GADDES, L.D.S. Eng. On Tuesdays and Thursdays at 8 p.m. during October, November, and December.

The following is the order in which the subjects will be treated:—

The differentiation of tissues for Dental purposes. The factors in the process of evolution. The specialised tissues produced in successive generations, as Bone; Cementum; Osteo-dentine; Vaso-dentine; Plici-dentine; Hard or True dentine; and Horn.—The structure of the "typical" hard tooth-tissues: Their structural modifications and morphological relation.—The structure of the pulp, periosteum, and gum.—General distribution and form of teeth, with peculiar modifications as found in Fish, Reptiles, and various orders of Mammals.—The development of teeth as seen in Fish, Reptiles, and Mammals. Origin, structure, and metamorphosis, of the several formative organs or pulps, and their homologous relations.—The attachment of teeth by Anchylosis, Membrane, Hinge and Gomphosis.—The succession of teeth.—The development of the jaws of man—of the antrum, alveoli, &c.—Relation of teeth to jaws in man compared with other primates.—These Lectures will be illustrated by Diagrams, Preparations, and Microscopic Specimens.

DENTAL METALLURGY, by Mr. ALFRED TRIBE, F.C.S., Fellow of the Institute of Chemistry. On Tuesdays at 8.30 a.m. during October, November, and December.

These Lectures will be devoted particularly to the consideration of those metals, amalgams, and alloys, which are used in Dental practice. The subjects of the course will be treated in somewhat the following order:—

Historical summary.—The general character of the metallic elements and their relations to the non-metals.—Distribution of metals in nature.—The general principles of metallurgic processes.—Fuel.—Furnaces.—The noble metals.—The base metals.—Alloys and amalgams.—Principles of electro-metallic depositions.—Discrimination of metals, &c.

SUPPLEMENTAL LECTURES.

OPERATIVE DENTAL SURGERY AND THERAPEUTICS, by W. F. THOMPSON, M.D., D.D.S. On Wednesdays, at 8 o'clock p.m., during October, November, and December. (Free to Students of the Hospital or College.)

These Lectures will include the consideration of—

Dental Caries leading to exposure of the pulp.—Diseases of Pulp and Periodontal Membrane (including Acute and Chronic Alveolar Abscess), and Treatment.—The preparation of cavities, previous to filling.—Filling Materials; including the different forms of gold, methods of preparing and using the same; also the various instruments required for operative work.—The

last lecture will be devoted specially to the subject of Replantation and Transplantation of Teeth. These lectures will be illustrated by diagrams, specimens, preparations, and operations in the mouth.

DEMONSTRATIONS ON DENTAL MECHANICS, by Mr. HARRY ROSE, L.D.S. Eng. On Mondays at 8 p.m., during January, February, and March. (Free to Students of the College.)

This Course will consist, as far as possible, of Practical Demonstrations on—

The Preparation of the mouth for Artificial Teeth.—On the Manipulation of the various Compositions, &c., for Impression Taking.—On taking Impressions of the Mouth, and obtaining a correct Bite or Articulation.—On Vulcanite Work—Plate-work—Mounting Springs, Swivels, &c.—Pivoted teeth.—Mould-making in Plaster and Metal.—Continuous Gum work.

DEFORMITIES OF THE MOUTH AND THEIR TREATMENT, by Mr. OAKLEY COLES, L.D.S. Eng. On Fridays at 8 p.m., during February and March. (Free to Students of the College.)

In these lectures the following subjects will be considered :

CONGENITAL DEFORMITIES.

Origin of Cleft Palate; theory of its Transmission from Parent to Offspring. Anatomy and Physiology of Cleft Palate. Troubles arising from Cleft Palate. Their Surgical and Mechanical Treatment.

ACQUIRED DEFORMITIES.

Resulting from Syphilis. Mechanical Injury. Gunshot Wounds, &c. Their Surgical and Mechanical Treatment.

The course will be illustrated by diagrams, models, and preparations. The construction of mechanical appliances will receive special consideration.

LECTURES.

Summer Session, 1880.

DENTAL MECHANICS, by Mr. GEORGE WILLIAMS, L.D.S. Eng. On Thursdays at 8 p.m., during May, June, and July.

The subject is treated in the following order :

Preparation for the Mouth. The Materials used for Impressions and their Uses.—On the various methods of applying Heat in the Dental Laboratory.—Casting in Plaster and Metals.—Precious Metals used in Mechanical Dentistry.—Their Application.—On the various forms of Porcelain used in Mechanical Dentistry, and their Application.—Non-Metallic Bases and their Application.—Malformations mechanically considered.—Conclusion.

DENTAL SURGERY AND PATHOLOGY, by Mr. OAKLEY COLES, L.D.S. Eng. On Tuesdays and Fridays at 8 p.m. during May, June, and July.

The subjects of this course will be considered in the following order :

Inflammation : Its symptoms, initial changes, causes, terminations, principles of treatment.—*Special Forms of Inflammation* : affecting the mouth and gums; catarrhal, herpetic, mercurial, croupous, phlegmonous, suppurative, acute oedematous.—*Inflammation of Special Tissues* : Pulp, periosteum mucous membrane of antrum.—*Atrophies* : Pulp, periosteum, alveolus, gums, dentine, cementum. Abrasions. Erosion. The atrophy of pregnancy.—*Caries and Necrosis* of teeth and jaws. Symptoms, Causes, and Treatment of.—*Hypertrophies* : Pulp—polypus, sensitive sprouting. Gum—Transparent hypertrophy of, congenital hypertrophy of. Periosteum—Polypus of. Jaws and alveolus. Tooth structures—exostosis, inostosis. Odontomes.—NEW FORMATIONS.—Tumours, Odontomes, varieties and classification of.—ACCIDENTS AND DISEASES OF JAWS AND ADJACENT STRUCTURES.—Foreign bodies in antrum, abscess of antrum, &c. Dislocation, fracture and closure of jaws. Surgery of lips, jaws and palate. Syphilitic affections in their influence upon the teeth and surrounding tissues. Neuralgia. Anæsthetics.—*Irregularities of Teeth* as regards form, period of eruption, and position.

The lectures will be illustrated by diagrams, models, and microscopic preparations.

SUPPLEMENTAL LECTURES.

ELEMENTS OF HISTOLOGY, by Mr. THOMAS GADDES, L.D.S. Eng. On Mondays and Wednesdays, at 8 p.m., during June and July. (Free to Students of the College.)

The object of this course is to give an account of the minute structure and development of the simple tissues of the body, and to prepare the student for the course on Dental Anatomy and Physiology.

The subjects comprised in the course are fully illustrated by diagrams, drawings, and microscopic specimens, and are treated in the following order :

Introduction : Life and its characteristics.—*Death* : Local, physiological, and general or systemic death.—*Cells* : Structure, cell wall, function, multiplication.—*Blood* : Fluid, cells, granules.—*Epithelium* : Squamous, columnar, spheroidal, ciliated.—*Connective tissue* : Areolar, white-fibrous, yellow-elastic.—*Cartilage* : Temporary, permanent.—*Bone* : Spongy, compact; formation and absorption of Haversian systems.—*Muscle* : Striped and unstriped.—*Blood vessels* : Arteries, capillaries, veins.—*Mucous membrane*.—*Skin and its appendages*.—*Glands* : Salivary, gastric, mucous.—*Secretion* : By glands, by membrane.—*Absorption* : By glands, by osmosis.

ARTS AND LITERATURE CLASS, conducted by the Rev. H. R. BELCHER, M.A., Assistant Master King's College School.

The arrangements for this class will vary according to the requirements of the Students entering.

GENERAL FEE FOR SPECIAL LECTURES REQUIRED BY THE CURRICULUM.
—Two courses on Dental Anatomy and Physiology; two courses on Dental Surgery and Pathology; two courses on Dental Mechanics; one course on Dental Metallurgy, £12 12s.

<i>Fees to Single Courses.</i>	<i>One Course.</i>	<i>Two Courses.</i>
Dental Anatomy and Physiology ...	£2 12 6 ...	£4 4 0
Dental Surgery and Pathology ...	2 12 6 ...	4 4 0
Dental Mechanics	2 12 6 ...	4 4 0
Dental Metallurgy	3 3 0 ...	5 5 0

FEES FOR LECTURES ON SUBJECTS ALLIED TO DENTAL SCIENCE, NOT REQUIRED BY THE CURRICULUM. (These Lectures, with the exception of the Arts and Literature Class, are free to Students of the College who have entered for the Special Lectures.) Operative Dental Surgery and Therapeutics, £2 2s. Elements of Histology, £1 1s. Demonstrations on Dental Mechanics, £1 1s. Deformities of the Mouth, £2 2s. Arts and Literature Class (three months), £3 3s.

Fee for the two years' Hospital Practice required by the Curriculum, £12 12s.

Total Fee for the Special Lectures and Hospital Practice required by the Curriculum, £25 4s.

Further particulars may be obtained from the Dean, THOMAS GADDES.

A very comprehensive calendar has just been published of the National Dental Hospital and School.

EDINBURGH DENTAL HOSPITAL AND SCHOOL.

THE Directors of this Institution would invite the attention of students to the special advantages which this school enjoys, in being in close proximity to the University, the Royal Infirmary, and the Medical and Surgical Schools of Edinburgh, which have gained a world-wide reputation for the excellence of their methods of training.

The Directors aim for the special classes required by Dentists, both theoretical and practical, a no less high

standard, and for this purpose they have secured the services of an efficient staff of Dental officers and lecturers.

In addition to the lectures required by the curriculum, there will be a special course of clinical instruction in gold filling, and also a special course of clinics in mechanical Dentistry.

To these will be added from time to time such classes, &c., as the requirements of Dental education may necessitate.

Hospital Staff.

Consulting Physician.—Professor SANDERS, F.R.C.P. Edin.

Consulting Surgeon.—Professor SPENCE, F.R.C.S. Edin.

Consulting Dental Surgeon.—Dr. JOHN SMITH, F.R.C.S. Edin.

Dental Staff and Days of Attendance.

Monday.—Mr. C. MATTHEW, L.D.S. Edin.

Tuesday.—Mr. D. HEPBURN, L.D.S. Eng.; Mr. J. T. CUNNINGHAM, L.D.S. Eng.

Wednesday.—Mr. W. B. MACLEOD, L.D.S. Edin.; Mr. M. FINLAYSON.

Thursday.—Mr. A. WILSON, L.D.S. Edin.; Mr. G. W. WATSON, L.D.S. Edin.

Friday.—Mr. W. CHISHOLM, L.R.C.P. & S. Edin., and L.D.S. Eng.; Mr. M. MACGREGOR, L.D.S. Edin.

Saturday.—Mr. W. A. ROBERTS, L.D.S. Eng.; Mr. A. CORMACK, L.D.S. Eng.

Assistants.—Mr. J. K. CHISHOLM and Mr. E. A. CORMACK.

Dental School.

Dental Anatomy and Physiology.—Mr. A. WILSON, L.D.S. Edin.

Dental Surgery and Pathology.—

Dental Mechanics.—Mr. W. B. MACLEOD, L.D.S. Edin.

Clinical Gold Filling.—Mr. C. MATTHEW, L.D.S. Edin.

The Directors will issue to the profession, in a few weeks, a detailed prospectus containing a syllabus of the lectures, fees, &c.

Dental Secretary.—Mr. W. Chisholm, L.R.C.S. & P. Edin., and L.D.S. Eng., 15 Duke Street, Edinb.

THE DENTAL HOSPITAL OF GLASGOW,

In connection with the School of Dental Surgery, will be opened daily, except Sundays, at 9 a.m.

Fee for the practice required by the Curriculum for the Licence in Dental Surgery, £10 10s. Further particulars will be announced when the necessary arrangements have been completed.

THE MIDDLESEX HOSPITAL.

Consulting Dental Surgeon—J. Tomes, Esq., F.R.S., M.R.C.S., L.D.S., Consulting Dental Surgeon to the Dental Hospital of London.

Dental Surgeon—J. Turner, Esq., M.R.C.S., L.D.S., Lecturer on Mechanical Dentistry at the Dental Hospital of London.

Students who intend to become Licentiates in Dental Surgery of the Royal College of Surgeons are admitted to attend the requisite courses of lectures and hospital practice on payment of a fee of forty guineas, either in one payment or by instalments of twenty-five guineas on entrance, and fifteen guineas at the beginning of the second winter session.

Pupils also receive instructions on Diseases of the Teeth and the Operations connected with them daily at 9 a.m. Fee £5 5s.

Further information may be obtained from Andrew Clark, Esq., the Dean or from the Resident Medical Officer at the Hospital.

This Hospital has the additional advantage of being in close proximity to the Dental Hospital of London. (See Advertisement.)

UNIVERSITY COLLEGE HOSPITAL.

The Dental Surgeon is G. A. Ibbetson, Esq., F.R.C.S., L.D.S., late Lecturer on Dental Anatomy and Physiology, Human and Comparative, at the London School of Dental Surgery, and late Dental Surgeon to the Dental Hospital of London. He gives a course of twelve lectures at University College on Mondays and Thursdays, at 4 p.m., beginning in January. Fee £2 2s. These lectures on Dental Surgery are recognised by the Royal College of Surgeons as qualifying for the Diploma in Dental Surgery. A silver medal in this class is awarded to the most proficient student.

Lectures on Clinical Surgery, once a fortnight or oftener, by Professor Marshall and Professor Hill; Mr. Erichsen and Sir Henry Thompson, Emeritus Professors of Clinical Surgery, will deliver short Courses during the Session.

Mr. Christopher Heath, the Holme Professor of Clinical Surgery, will give a Clinical Lecture, and also hold a clinical examination on surgical cases once a week.

Mr. Marcus Beck, M.S., M.B., and Mr. Arthur E. Barker, the assistant professors of Clinical Surgery, will also hold written and *vivâ voce* examinations of the students throughout the year, and during May, June, and July, will instruct the second year's Students in the observation and examination of patients twice a week as required by the Royal College of Surgeons.

Scholarships, Exhibitions, and Prizes.

Three Entrance Exhibitions, of the respective values of £30, £20, and £10 per annum, tenable for two years.

An Atkinson Morley Scholarship for the promotion of the study of Surgery, £45 a year, tenable for three years.

Atchison Scholarship of £55, tenable for two years, for general proficiency.

Sharpey Physiological Scholarship, about £70 a year, tenable for three years.

Filliter Exhibition for Proficiency in Pathological Anatomy, £30.

Liston Gold Medal for Clinical Surgery.

Dr. Fellowes's Medals for Clinical Medicine, two Gold and two Silver.

Alexander Bruce Gold Medal for Pathology and Surgery.

Cluff Memorial Prize, awarded every other year for proficiency in Anatomy, Physiology, and Chemistry.

Morris Bursary, £25 a year.

The next Examination for the Entrance Exhibitions will be held on September 25th and following days.

Students are recommended to apply to the Dean, Prof. Christopher Heath, or to the Vice-Dean, Prof. G. D. Thane, for any information or advice that they may require regarding their studies.

KING'S COLLEGE, LONDON.

Dental Surgeon, Professor S. Hamilton Cartwright, M.R.C.S.

The Winter Session opens on Friday, 1st October, with an Introductory Address by Professor Curnow, M.D.

The fee at this College for taking the L.D.S. is £95 1s. 6d. if paid in one sum on entrance, or £100 if paid by the following instalments, viz. £60 on entrance, and £40 at the beginning of the Second Winter Session; for those students qualifying themselves as medical practitioners, and afterwards taking up a special course of Dentistry, the fee is thirty guineas.

Further information may be obtained personally or by letter, marked outside "Prospectus," to J. W. Cunningham, Secretary.

CHARING CROSS HOSPITAL.

Dental Surgeon, J. Fairbank, Esq., M.R.C.S., who attends at the Hospital

three days a week for Dental operations. A course of lectures on Dental Surgery is also given during the summer months.

The full amount of fees at this hospital for Dental Surgery is £49 7s., but the "composition" fee has been fixed at £42 2s., which includes the matriculation fee of £2 2s., and for which the Student enjoys all the privileges of a matriculation student, which are as follows:

1st. They pay a proportionately lower amount of fees.

2nd. They alone are eligible for the following offices and appointments:—Resident medical officer, resident surgical officer, resident accoucheur, assistant demonstrator, pathological assistant, clinical clerks, dressers, Dentist's assistant.

3rd. They are admitted to the use of the library and reading rooms.

4th. They are admitted, without additional fee, to the special courses of practical instruction in clinical medicine, clinical surgery, and in bandaging, as well as to the clinical demonstrations and the pathological demonstrations.

5th. They are admitted, without additional fee, to the lectures on psychological medicine.

6th. They are specially instructed in the use of all the instruments of modern scientific research—the microscope, the ophthalmoscope, the laryngoscope, &c. They are themselves called upon to perform all the ordinary chemical tests and microscopical examinations requisite in medicine.

7th. They alone are entitled to compete for the scholarships.

For further information apply to Francis Hird, Esq., Dean.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.

Dental Surgeon and Lecturer, Alfred Coleman, Esq., L.R.C.P. Lond., F.R.C.S., L.D.S., Dental Surgeon to the Dental Hospital of London.

Assistant Dental Surgeons, Isidore J. Lyons, Esq., M.R.C.S., L.R.C.P. Edin., L.D.S., and Francis Ewbank, Esq., M.R.C.S., L.S.A.

The Dental Department of the Hospital is open on Tuesday and Friday mornings at 9 o'clock. The practice of the department is recognised by the Royal College of Surgeons.

Lectures on Dental Surgery, Anatomy, Physiology, and Pathology, on Saturdays, at 10.30 a.m., during the months of October, November, and December; the fee for one course is £2 12s. 6d., unlimited £4 4s. These Lectures are recognised by the Royal College of Surgeons as a course on Dental Surgery required for the Dental diploma.

The fee for general subjects for Dental students for the first winter is £33 2s. 6d., for the first summer £33 2s. 6d., or a single payment of £66 3s.

This hospital is the oldest and one of the largest in London, and among many other advantages which it offers the student is that provision is made for their residence in the College, on the recommendation of a medical officer of the Hospital.

For the terms of board and residence and all other information regarding the College, application should be made, either personally or by letter, to the Warden of the College, Dr. Moore.

If desired, Dr. Moore will be glad to send hours of general lectures, &c.

WESTMINSTER HOSPITAL.

Dental Surgeon, J. Walker, Esq., M.D., M.R.C.S., L.D.S., who attends at 9 a.m. on Wednesdays and Saturdays for practical demonstration of diseases and operations on the teeth. A second Dental Surgeon will be appointed.

The fee for attendance on the Dental practice is £4 4s. for three months and £6 6s. for six months. The whole of the General lectures and surgical practice required for the Dental diploma of the College of Surgeons can be attended for £38, in one sum, on entrance, or for two sums of £26 10s. and £14 10s., payable at the beginning of each year.

Those who become General Dental Students, as above, will have the option of attending all the special classes required for the Dental diploma at West-

minster, so as to avoid the waste of time which is incurred by constantly going to and fro between two hospitals.

The Lectures are as follows:

Dental Surgery and Pathology.—Dr. J. Walker on Wednesdays, in October, November, and December, at 9.30 a.m.

Metallurgy.—Dr. Duprè, F.R.S., on Tuesdays, in January, February, and March, at 4 p.m.

Dental Anatomy and Histology.—Dr. Allchin on Wednesdays, in May, June, and July, at 4 p.m.

Dental Mechanics.—(Vacant) in May, June, and July.

The Calendar will be forwarded on application to George Cowell, Esq., F.R.C.S., the Dean of the School, who will afford every information.

GUY'S HOSPITAL MEDICAL AND SURGICAL SCHOOL.

Dental Surgeon, S. J. A. Salter, Esq., M.B., F.R.S., F.L.S., M.R.C.S., L.D.S. Assistant Dental Surgeon, H. Moon, Esq., M.R.C.S., L.D.S. Dressers are appointed to the Dental Surgeon, and hold office for two months, each receiving special certificates.

Practical instruction in Dental Surgery is given every Thursday at 12 o'clock. A certain number of cases of cleft palate, perforate palate, irregularities, lost portions of jaw, &c., are constantly under treatment for the instruction of students,—the necessary apparatus being supplied at the expense of the hospital.

A course of Lectures on Dental Surgery is delivered on Fridays at 12 o'clock during the Summer Session, and special instruction is given on this subject in the Surgery, by Mr. Moon, throughout the year.

Application respecting the School may be made to the Dean, Dr. F. Taylor.

ST. GEORGE'S HOSPITAL.

Dental Surgeon, A. Winterbottom, F.R.C.S., L.D.S. Mr. Winterbottom attends at the Hospital on Tuesdays and Saturdays from 9 to 10, and on Thursdays at 1 o'clock.

A course of Lectures on Dental Surgery is given by Mr. Winterbottom in the summer session. Free to students of the hospital.

Fee for general subjects in Dental Surgery, including Practical Chemistry, £55. Payable in two instalments: First year, £30; second year, £25.

Further information can be obtained by application to Dr. Barclay, Treasurer; or Dr. Wadham, Dean of the Medical School; and from the Resident Medical Officer at the Hospital. (See Advertisement.)

LONDON HOSPITAL MEDICAL COLLEGE.

Dental Surgeon, A. W. Barrett, Esq., M.B. Lond., M.R.C.S.

Mr. Barrett gives practical instructions on Tuesdays at 9 a.m.

The lectures are delivered by Mr. A. W. Barrett in March at 5 p.m.

Further information may be obtained on application addressed to A. W. Barrett, Esq., 42, Finsbury Square, E.C., or R. Kershaw, Secretary, Medical College, London Hospital.

Dental Department.

Mr. Barrett gives practical instruction on Tuesdays at 9 a.m., which is open to all Students of the School and Hospital, and can be attended by gentlemen who are not pupils. Mr. Barrett will be always glad to receive applications from those desirous of holding the office of Dental Assistant. A Dental Assistant elected every 3 months from the Students. The attention of Dental Students is particularly directed to the fact that the Council of the College of Surgeons recognise the Dental Department of the London Hospital as a School at which may be obtained the Dental Practice necessary to qualify a Student for the Examination for the Dental Diploma. Dental Students may also obtain the General Medical Education and the Dental Practice, necessary

SPECIAL ARRANGEMENTS OF GENERAL HOSPITALS. 479

for the Diploma, at the London Hospital School and College, on payment of a fee of 40 guineas.

For perpetual Dental Practice at the London Hospital a fee of 10 guineas.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.

Dental Surgeon, H. Howard Hayward, Esq., M.R.C.S., L.D.S.

Practical instruction in Dental operations is given on Wednesdays and Saturdays at 9.30 a.m. Dressers are appointed who hold office for 3 months. Also a special course of Lectures on Dental Surgery.

Fee for the course £2 2s.

Further information may be obtained by application to A. B. Shepherd, M.D., Dean of the School. (See Advertisement.)

ST. THOMAS'S HOSPITAL.

Dental Surgeon, John W. Elliott, Esq., M.R.C.S., L.D.S. Assistant Dental Surgeon, William Gill Ranger, M.R.C.S.

Gentlemen may receive instruction in diseases of the teeth, are appointed dressers, and can undertake operations subject to the supervision of the Dental Surgeons on Tuesdays and Fridays at 10 a.m.

Numerous cases of irregularity of the teeth, stoppings, and the application of artificial appliances are undertaken during each term. For further information apply to Dr. Gillespie, Medical Secretary.

The fee for attendance on the *general* subjects required of Students in Dental Surgery is for the two years £55, or by instalments, £50 for the first year and £10 for the second year. (See Advertisement.)

GREAT NORTHERN HOSPITAL.

Dental Surgeon, Charles James Fox, Esq., M.R.C.S., L.D.S.; Wednesdays at 2.

Practical instruction in Dental Surgery, by Mr. Fox. Fee £5 5s. for six months' practice.

This institution is not yet recognised by the Royal College of Surgeons, but affords an excellent field for practice to those who may desire it previous to entering the recognised schools.

LIVERPOOL DENTAL HOSPITAL, MOUNT PLEASANT.

This Hospital is a School of Practical Dental Surgery duly recognised by the Royal College of Surgeons and open to all Students of Dentistry, under such regulations as shall be determined by the Committee of Management.

The Hospital is open daily for the admission of patients at 9 a.m.

Fees for Hospital practice £10 10s. per annum.

Further information may be obtained by applying to the Honorary Secretary, W. J. Newman, Esq., 75, Mount Pleasant.

Hospital Staff.

Consulting Physician.—John Macnaught, M.D., F.R.C.P., &c.

Consulting Surgeon.—William Banks, M.D., F.R.C.S. Eng.

Consulting Dental Surgeons.

W. J. Newman, L.D.S.R.C.S.I. | R. E. Stewart, L.D.S.R.C.S.

Dental Surgeons.

James B. Lloyd.

William T. Bryan.

James E. Rose, M.O.S.

E. J. M. Phillips, M.R.C.S., L.D.S.

Thomas F. Austin.

Evan A. Morgan, L.K.Q.C.P. Ireland, M.R.C.S., &c.

Assistant Dental Officers.

Charles T. Stewart.

J. Geo. Roberts, L.D.S.R.C.S.I.

Hon. Secretary.—W. Newman.

(See Advertisement.)

LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE.

SUMMER SESSION.

Dental Surgery.—Joseph Snape, L.D.S.R.C.S.*Dental Mechanics*.—Robert E. Stewart, L.D.S.R.C.S.

DENTAL DISPENSARY, OCTAGON, PLYMOUTH.

Physician.—C. Albert Hingston, M.D. Lond.*Surgeons.*Christopher Bulteel, F.R.C.S., Surgeon to the Royal Albert Hosp., Devonport.
Connell Whipple, M.R.C.S., Surg. to the South Devon and East Cornwall Hosp.*Consulting Dentists.*

Stratton J. Coles, M.O.S. | F. A. Jewers, M.O.S.

Dental Surgeons.

W. V. Moore, D.L.R.C.S. and M.O.S.

C. Spence Bate, F.R.S., D.L.R.C.S., late V.P.O.S., &c.

Francis H. Balkwill, D.L.R.C.S. and M.O.S.

Hon. Treasurer.—Alfred Payne Balkwill.*Hon. Sec.*—E. G. Bennett.

The dispensary is open at 9 o'clock on Mondays, Wednesdays, Thursdays, and Saturdays, for the gratuitous treatment of diseases of the teeth.

A Course of Lectures will be delivered during the Year.

On "Dental Physiology," by C. Spence Bate, F.R.S., D.L.R.C.S.

On "Dental Anatomy," by F. H. Balkwill, D.L.R.C.S.

On "Dental Mechanics," by W. V. Moore, D.L.R.C.S.

Fee to Lectures, one Course, £7 7s.

Fee to Lectures, double Course, £12 12s. (required for Diploma).

Fee to Dental Practice at Dispensary, £5 5s. per annum.

Fee to entire Dental Curriculum (required for Diploma), 22 Guineas.

E. G. BENNETT, *Hon. Sec.*

PLYMOUTH, 31st December, 1875.

Dental School.

Certificates of attendance on the practice of this Dental Dispensary are recognised by the College of Surgeons as qualifying for the Diploma in Dental Surgery.

The College will also recognise lectures delivered at the Dental Dispensary, Plymouth, when satisfied of their due delivery and efficiency.

Pupils of any of the Dental Surgeons of the Plymouth Dental Dispensary, or other Dentists holding a Diploma of the College of Surgeons, or Member of the Odontological Society, may attend the Dispensary on the day of such practitioner as may agree to accept such pupil or pupils, on the payment of £1 1s. per annum to the institution.

BIRMINGHAM DENTAL HOSPITAL, BROAD STREET.

The Institution has for its object the gratuitous relief of the poor, in all cases of diseases of the teeth, such relief including the operations of extraction, stopping, scaling, and the regulation of children's teeth. The Hospital is open every morning in the week (Sunday excepted) from 9 till 10 o'clock.

*Hospital Staff.**Hon. Consulting Physician*.—James Sawyer, M.D. Lond., M.R.C.P., Physician to the Queen's Hospital.*Hon. Consulting Surgeon*.—James West, F.R.C.S., Senior Surgeon to the Queen's Hospital.*Hon. Consulting Dentists.*

Thomas R. English. | Adams Parker, L.D.S., R.C.S.

Surgeon Chloroformist.—F. H. Maberly, M.R.C.S., The Crescent.

<i>Hon. Dental Surgeons.</i>	<i>Days of Attendance.</i>
Charles Sims, L.D.S., R.C.S. Eng.	Wednesdays and Saturdays.
W. H. Neale	Tuesdays and Thursdays.
Vacant	Mondays and Fridays.

Auditor.—Walter N. Fisher, Waterloo Street.

Collector.—Charles C. Smith, Ann Street.

Committee.

Henry Berens.	W. Marrian.
Thomas Holroyd.	Wm. Thomas.
Joseph Harris.	Councillor Payton.

Bankers.—Lloyds' Banking Company, High Street.

Hon. Secretary.—Allen Edwards, 82, New Street.

THE DENTAL HOSPITAL OF DUBLIN, BERESFORD PLACE.

This Hospital is solely devoted to the gratuitous treatment of Diseases and Deformities of the Mouth of the poor. Open daily from 9 to 10 a.m.

Consulting Physicians.

Thomas Hayden, Esq., F.K.Q.C.P.I. | George F. Duffey, Esq., F.K.Q.C.P.I.

Consulting Surgeons.

Edward D. Mapother, Esq., M.D. | Henry Gray Croly Esq., F.R.C.S.I.

Dental Surgeons.

Mark J. Bloom, Esq., D.D.S.R.C.S.I.	John O'Duffy, L.D.S.R.C.S.I.
J. H. Longford, Esq., L.D.S.R.C.S.I.	Henry Sherlock, Esq., F.R.C.S.I.
Francis M'Clean, Esq., L.F.P.S.Glasg.	Theodore Stock, Esq., M.D.

Hon. Treasurer.—J. H. Longford, Esq.

Hon Secretary.—John O'Duffy.

Bankers.—The Royal Bank, Foster Place, Dublin.

Registrar.—Mr. Francis Kellett.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

Officers and Council for the year 1879.

President.—Edwin Saunders, Esq.

Vice-Presidents.

RESIDENT.	NON-RESIDENT.
Henry John Barrett, Esq.	H. Campion, Esq. (Manchester).
Charles James Fox, Esq.	David Hepburn, Esq. (Edinb.).
T. A. Rogers, Esq.	Alfred Meara, Esq. (India).

Treasurer.—James Parkinson, Esq.

Librarian.—Felix Weiss, Esq. | *Curator.*—C. S. Tomes, Esq.

Honorary Secretaries.

Ashley Barrett, Esq. (Council).	FOR FOREIGN CORRESPONDENCE.
S. J. Hutchinson, Esq. (Society).	W. G. Ranger, Esq.

Councillors.

RESIDENT.—H. B. Longhurst, Esq.; H. Sewill, Esq.; A. P. Reboul, Esq.; E. B. West, Esq.; J. S. Turner, Esq.; T. Underwood, Esq.; Oakley Coles, Esq.; J. Walker, Esq., R. H. Woodhouse, Esq.

NON-RESIDENT.—W. Margetson, Esq. (Dewsbury); W. Campbell, Esq. (Dundee); J. Doherty, Esq. (Dublin); W. R. Wood, Esq. (Brighton); W. Hunt, Esq. (Yeovil); T. W. G. Palmer, Esq. (Cheltenham).

EXTRACTS FROM THE BYE-LAWS.

Objects and Constitution of the Society.

This Society is instituted for the encouragement and diffusion of knowledge in Dental Surgery, and for the promotion of intercourse among members of the Dental Profession.

The Society shall consist of resident, non-resident, corresponding, and honorary members.

1. The resident members shall consist of gentlemen practising as Dentists in London, or within ten miles of the General Post Office, St. Martin's-le-Grand.
2. The non-resident members shall consist of gentlemen practising as Dentists, residing beyond ten miles from London.
3. The corresponding members shall consist of distinguished gentlemen practising as Dentists, residing in the Colonies of Great Britain or foreign countries.
4. The honorary members shall consist of distinguished practitioners of Dentistry, who have retired from practice, of distinguished medical practitioners, and of gentlemen distinguished in any department of science.

Persons who advertise in the public journals or by circular, either their profession or their professional attainments or public appointments, or anything relating to their mode of practice or charges, or who expose for public inspection specimens of operative or mechanical Dentistry, or conduct their practice in any way which in the opinion of the Council of this Society is derogatory to the respectability of the profession, shall not be considered eligible for nomination as members.

No person being the proprietor of a secret remedy, or holding a patent relating to the requirements of Dental practice shall be a member of this Society.

Election and admission of Resident and Non-Resident Members.

Recommendations for resident members shall be signed by two members from personal knowledge, and by two or more from general knowledge. Recommendations for non-resident members may be signed by one member only from personal knowledge and by two or more from general knowledge.

All recommendations for resident or non-resident members shall be submitted to and approved of by the Council before being proposed to the Society for ballot.

Contributions of Members.

Every person elected a resident member shall pay three guineas as an admission fee, and an annual subscription of two guineas, *in advance*.

Every person elected a non-resident member shall pay two guineas as an admission fee, and an annual subscription of one guinea, *in advance*.

The entrance fees and first annual subscription shall be paid on admission, and the subsequent annual subscriptions in the month of November in each year; but new members, proposed at or after the annual meeting, shall not be required to pay any subscription for the current session.

Ordinary Meetings.

The ordinary meetings of the Society shall be held on the first Monday in each month, from November to June, both inclusive, at 8 p.m. precisely, except in the month of January.

Each member may introduce two visitors at these meetings, on writing the visitors' names in a book to be kept for that purpose. The same visitors shall not be admitted more than three times during one session.

Annual General Meeting.

The annual general meeting of the Society for the election of the officers and councillors, &c., shall be held on the evening of the second Monday in January every year.

Society's Transactions.

The Transactions of the Society, under the designation of 'Transactions of the Odontological Society of Great Britain,' shall be printed at such times and in such manner as the Council shall direct.

The 'Transactions' shall be presented to all resident and non-resident members of the Society, who have paid their annual subscriptions.

ODONTO-CHIRURGICAL SOCIETY OF SCOTLAND.

President.—W. Campbell, Esq., L.D.S. Eng.

Vice-Presidents.

C. Matthew, Esq., L.D.S. Edin. | J. R. Brownlie, Esq., L.D.S. Eng.

Treasurer.—P. Orphoot, Esq., M.D.

Secretary.—A. Wilson, Esq., L.D.S. Edin.

Curator.—G. W. Watson, Esq., L.D.S. Edin.

Council.

D. Hepburn, Esq., L.D.S. Eng. | W. R. Chisholm, Esq., L.R.C.P.

A. Cormack, Esq., L.D.S. Eng. | & S.E., L.D.S. Eng.

W. B. Macleod, Esq., L.D.S. Edin.

Ordinary Meetings.

The Society meets on the second Thursdays of November, December, January, and February, and the 13th March.

EXTRACTS FROM THE CONSTITUTION AND LAWS.

Name and Objects.

The Society shall be named the "Odonto-Chirurgical Society," and shall have for its objects the Promotion and Diffusion of Knowledge in matters connected with Dental Surgery; the furtherance of communications on such subjects by Members of the Society; and otherwise to advance the interests of Dental Surgery as a branch of medicine.

Ordinary and Honorary Members.

The Society shall consist of Ordinary, Honorary, and Corresponding Members:

The Ordinary Members shall consist of Gentlemen practising as Dentists in Great Britain, and of Medical and Surgical Practitioners interested in Dental Surgery.

The Honorary and Corresponding Members shall consist of Gentlemen practising Dentistry in Great Britain, in the Colonies, or in Foreign Countries, and of retired Dental Practitioners in Britain, as well as such Medical or generally Scientific men as may have distinguished themselves in connection with Dental Surgery.

The Ordinary Members shall have vested in them the Government of the Society, and all cases not otherwise specified shall be decided by them by a majority of votes, by ballot, if required.

Obligations of Members.

No Member shall be permitted to advertise, either in the public journals or by circular, his profession, his modes of practice, or his charges. They shall not be permitted to expose specimens of their work for public inspection, nor to carry on their practice in connection with any other business, nor to hold any patent relating to Dental practice, nor to conduct themselves in any way which the Society may consider derogatory to the Profession, so long as they continue Members of the Society. But Members who practise in towns other than that in which they reside shall be allowed to intimate their visits; such intimations being subject to the approval of the Council.

Application for Membership.

Candidates for admission as Members of the Society shall be recommended by an Ordinary Member, and the recommendation seconded by another. After being approved by the Council, such recommendation shall be read to the Society at an Ordinary Meeting, and shall lie over till the next, when the Candidate shall be balloted for, when two thirds of the Members present must be in his favour to secure his election.

Contributions.

Every Member elected, except Honorary Members, shall pay an Entrance Fee of One Guinea, and Ten Shillings and Sixpence of an Annual Subscrip-

tion, in advance. All Annual Subscriptions to date from the 1st of March preceding the Candidate's admission.

THE STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON, LEICESTER SQUARE.

The following are the officers for 1879-80 :

President.—R. H. Woodhouse, L.D.S.

Vice-Presidents.

L. Read, L.D.S. | J. Ackery, L.D.S.

Treasurer.—John H. McCall.

Secretaries.

J. N. Pedley. | J. B. Magor.

Council.—Messrs. Cooksey, Daish, Maggs, Pedley, Magor (2nd year); Messrs. Davis, Bernard, Bradshaw, and Robbins (1st year).

EXTRACT FROM THE BYE-LAWS.

That the Society be called the "Students' Society of the Dental Hospital of London."

That the object of the Society be the consideration of matters generally and specially appertaining to Dentistry.

That the affairs of the Society be managed by a Council consisting of a President, two Vice-Presidents, Treasurer, two Secretaries, and six other members.

That the President be chosen from the past students who have obtained their degree of L.D.S.

That the Vice-Presidents be chosen from the past students, with or without qualification.

That the Council consist of five second and four first year's students, the former to retire annually, their places being filled by the latter, the number being completed by the election of one other second and four first year's students.

That any gentleman wishing to become a member must be proposed and seconded at one meeting, and be balloted for at the next; one black ball in four to exclude.

That the staff of the Hospital and lecturers of the School be *ex officio* Honorary members.

That the entrance-fee for Ordinary members be half-a-crown, and half-a-crown be the annual subscription.

That old qualified students be invited by the Council to become Honorary members, and that members on gaining the diploma of Licentiate in Dental Surgery become thenceforth Honorary members.

That an ordinary meeting be held at 7 p.m. on the second Monday in every month, from October to March inclusive; the chair to be taken at 7 o'clock p.m., it may be prolonged half-an-hour. The annual meeting for the election of officers, and other business, is held in January of each year.

Visitors.

Every member has the power of introducing one visitor, not being a student of the Hospital or School, to the evening meetings, with the consent of the President.

Visitors are allowed to take part in the discussion of the papers and clinical cases, but shall have no voice in the business of the Society.

Library.

That the Secretaries discharge the duties of Librarians.

That the journals and books received by the Society shall be kept at the

Dental Hospital for a fortnight, and then shall be lent to members for one night on personal application to the Secretaries.

That members take precedence according to their entrance at the Hospital, present students having preference to past ones.

That should any member injure, or remove before or retain after the appointed time, any periodical or book belonging to the Society, he shall be liable to the fine of sixpence.

Prize.

The Council purpose offering a prize, value £3 3s., at the end of the Winter Session, for the best paper read before the Society in the forthcoming session under the following conditions:

1st. That no member possessing a medical or surgical degree or diploma shall be allowed to compete.

2nd. That in the event of there being more than six papers the Council shall have power to appoint extra meetings or otherwise arrange as it may think fit.

3rd. That two members of the hospital staff be selected at the Annual General Meeting and be requested by the members to test the merits of the several papers read and award the prize.

STUDENTS' SOCIETY OF THE NATIONAL DENTAL HOSPITAL AND COLLEGE.

This Society, which was established March 15th, 1878, was constituted for the encouragement and diffusion of knowledge in Dental Science, and for the promotion of intercourse among its members, and all Students of Dental Science are eligible for Membership. That all Candidates for Membership must be approved by the Council before being proposed to the Society for election. The Entrance Fee is 2s. 6d., and the Annual Subscription is 2s. 6d., to be paid in advance. The Ordinary Meetings of the Society are held on the first Friday in each month, from October to March, both exclusive, at 8 p.m. precisely. Each Member may introduce two visitors, not being Students of the Hospital or College, but the same Visitors may not be admitted more than three times during one Session.

PRIZES.

Four Prizes, in Medals, Books, or Instruments, are open for competition among the Students of the College at the end of each course of Lectures required by the curriculum.

Certificates of Honour are awarded to those Students who show superior proficiency in any of the classes.

The Rymer Gold Medal for General Proficiency, value £5, will be awarded annually to the most meritorious student of the year. His general conduct and attendance must have been in every respect satisfactory. At the time of the special examination for the Rymer Medal the Student must not hold any qualification.

Mr. Oakley Coles gives a Prize for the best prepared Notes of his Lectures on Dental Surgery.

Dr. Thompson will give a Prize at the conclusion of his Supplemental Course of Lectures.

The Distribution of Prizes takes place at the commencement of the Summer Session.

THE BRITISH DENTAL ASSOCIATION.

REPRESENTATIVE BOARD.

<i>President.</i> —John Tomes, F.R.S.	<i>Vice-President.</i> —Thomas Underwood.
<i>Treasurer.</i> —James Parkinson.	<i>Hon. Sec.</i> —J. S. Turner.
<i>For the Provinces.</i> —Dr. J. Smith and David Hepburn (Edinburgh),	

C. Sims (Birmingham), W. Fothergill (Darlington), S. Lee Rymer (Croydon), C. J. Peacock (Scarborough), F. A. Huet and H. Campion (Manchester), J. S. Browne Mason (Exeter), W. J. Newman and W. H. Waite (Liverpool), J. H. Kyan (Preston), Dr. H. Merryweather (Sheffield), J. Dennant (Brighton), G. W. Buchanan and J. R. Brownlie (Glasgow), J. N. Manton (Wakefield), J. O'Duffy and J. H. Longford (Dublin), S. Wormald (Stockport), W. Campbell (Dundee), R. Rogers (Cheltenham), C. Spence Bate, F.R.S. (Plymouth).

For London.—Edwin Saunders, James Parkinson (Treasurer), C. S. Tomes, F.R.S., J. Tomes, F.R.S. (President), A. G. Ibbetson, Charles James Fox, A. J. Woodhouse, H. Moon, T. A. Rogers, C. Vasey, T. Underwood (Vice-President), A. Coleman, David Hepburn, C. D. Roberts, J. S. Turner (Hon. Sec.).

Extract from Bye-Laws.

4. A person who is registered in the Dentists Register shall be eligible for election as a member of the Association, provided that he be of good character; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show-case exposed to public inspection; or by means of public advertisements, or circulars, describing modes of practice, or patented or secret processes; or by the publication of his scale of professional charges.

5. Any registered Dental practitioner who can subscribe to the conditions laid down in Bye-law 4, and who desires to be enrolled in the Association, shall be so enrolled on his signing a declaration (provided by the Association) embodying the aforesaid Bye-law, AND FORWARDING IT, WITH THE SUBSCRIPTION OF ONE GUINEA, to the Hon. Secretary or Treasurer before March 3rd, 1880; after which date any registered practitioner not disqualified by any Bye-law, who shall be recommended as eligible by any three members of the Association, may be elected a member by the Representative Board or by a committee appointed for that purpose by that Board.

THE WESTERN COUNTIES DENTAL ASSOCIATION.

President.—C. SPENCE BATE, Esq., L.D.S.

Secretary.—W. V. MOORE, Esq., L.D.S.

Council.—F. H. Balkwill, Esq., L.D.S. (Plymouth), C. Spence Bate, Esq., L.D.S. (Plymouth), Richard Browne, Esq., L.D.S. (Tavistock), J. T. Browne-Mason, Esq., L.D.S. (Exeter), S. Bevan Fox, Esq., L.D.S. (Exeter), C. A. Hayman, Esq., L.D.S. (Bristol), E. E. Jewers, Esq., L.D.S. (Plymouth), C. N. King, Esq., L.D.S. (Exeter), Henry Augustus King, Esq., L.D.S. (Exeter), Henry B. Mason, Esq., L.D.S. (Exeter), W. V. Moore, Esq., L.D.S. (Plymouth), David Watson, Esq., L.D.S. (Torquay).

Extract from Bye-laws.

4. A person who is registered in the Dentists Register shall be eligible for election as a member of the Association, provided that he be of good character; that he does not conduct his practice by means of the exhibition of Dental specimens, appliances, or apparatus in an open shop, or in a window, or in a show-case exposed to public inspection; or by means of public advertisements or circulars describing modes of practice, or patented or secret processes; or by the publication of his scale of professional charges.

5. Any registered Dental practitioner who can subscribe to the conditions laid down in Bye-law 4, and who desires to be enrolled in the Association, shall be so enrolled on his signing a copy of the aforesaid Bye-law, and forwarding it, with the subscription of half a guinea, to the Hon. Secretary or Treasurer before August 1st, 1879; after which date any registered practitioner not disqualified by any bye-law, who shall be recommended as eligible by any three members of the Association, may be elected a member by the Council.

ALPHABETICAL LIST OF LICENTIATES IN DENTAL SURGERY FOR 1878.

From the Calendar of the Royal College of Surgeons.

A.

- 1863 Aaronson, Andrew, Whitechapel-rd.
 1878 Ackery, John, Camberwell.
 1876 Adams, Frank Haydon, Budleigh
 Salterton, South Devon.
 1874 Alabone, A., Newport, I. of Wight.
 1879 Alexander, Henry J., Margaret-st.
 1860 Allen, F. Charles, Maidstone.
 1878 Alexander, Adolphus Benjamin,
 Hatton Garden.
 1860 Allingham, J. Henry, Manchester.
 1875 Allworth, A., Lyndhurst-rd., S.E.
 1866 Apperly, Ebenezer, Stroud.
 1860 Ash, George, Great Marlborough-st.
 1863 Ash, G. Edward, Dover.
 1863 Ash, William, Gt. Marlborough-st.
 1863 Atkinson, J. Hastings, Leeds.
 1875 Atkinson, J. O., Kendal.

B.

- 1860 Balkwill, F. Hancock, Plymouth.
 1861 Barker, William, Fleet-street.
 1863 Barkley, William, Worcester.
 1873 Barrett, Ashley Wm., Finsbury-sq.
 1860 Barrett, Henry John, Finsbury-sq.
 1860 Bartlett, E. Barton, Connaught-sq.
 1870 Bartlett, Edward, Connaught-sq.
 1870 Bartlett, William, Connaught-sq.
 1866 Bartlett, W. P., Hyde-park.
 1860 Bate, Charles Spence, Plymouth.
 1876 Bateman, G. W., 99, Ladbroke-gr.
 1869 Baylis, George Wm., Natal, Africa.
 1875 Baylis, H. M., Tunbridge Wells.
 1872 Baylis, Leighton, Natal, Africa.
 1860 Bell, J., Grahamstown, Cape Colony.
 1877 Bell, Martin Luther, Canterbury.
 1865 Bell, R. John, Canterbury.
 Bell, Thomas, Selborne.
 1874 Bellaby, G. L., Nottingham.
 1877 Bellaby, Frederick, Hampstead.
 1875 Bennett, W. C. S., George-st.
 1878 Bennett, F. G. George-street, W.
 1860 Bennett, Wm. George, George-st. W.
 1878 Betts, Edward George, Holloway.
 1877 Bevers, Harcourt Arthur Bell,
 Oxford.
 1873 Binns, Edmund, Middlesbro'.
 1876 Birt, Stephen, Leamington.
 1875 Bödecker, T. A., Wolverhampton.
 1863 Bonnalie, George, Chester.
 1863 Borlase, Wm. Grenfell.
 1863 Bradley, W. Tenney, Chichester.
 1879 Brameld, Clement N., Nottingham.
 1863 Bridgman, F. G., Queen Anne-st. W.
 1861 Bridgman, W. Kencely, Norwich.
 1863 Bright, C. Sibthorpe, Genoa, Italy.
 1861 Bromley, C. Henry, Southampton.

- 1860 Brookhouse, Robert, Manchester.
 1863 Brown, J. Henry, Brighton.
 1876 Brown, Richard, Tavistock, Devon.
 1877 Browning, D., Crawford Street, W.
 1873 Brownlie, James R., Glasgow.
 1873 Bruce, P., Valparaiso, S. America.
 1874 Bryant, Frank, Derby.
 1863 Buckell, William, Salisbury.
 1861 Budd, Henry, Ealing.
 1861 Bullin, Frederick, Chester.
 1876 Burrows, Walter Shoppee, New-
 road, E.
 1878 Burt, W. Weymouth.

C.

- 1863 Caldeleugh, John, Durham.
 1879 Carranza, Victor Gabriel, Cuba.
 1861 Campbell, Walter, Dundee.
 1860 Canton, A. G., Gt. Marlborough-st.
 1875 Canton, F., Marlborough-street.
 1874 Canton, F. A., Baker-street, W.
 1875 Carteighe, J., Cape Town.
 1876 Carter, Thomas Scales, Leeds.
 1874 Cartwright, A., Old Burlington-st.
 1860 Cartwright, S., Old Burlington-st.
 1871 Cartwright, S. H. Old Burlington-st.
 1860 Cattlin, William, Highbury-place.
 1860 Cattlin, W. A. N., Brighton.
 1879 Chalcraft, Wm. H., Nottingham.
 1860 Chisholm, John Knox, Edinburgh.
 1869 Chisholm, William, Edinburgh.
 1870 Clark, Charles Lane, Connaught-
 street, W.
 1862 Clarke, James, Nottingham.
 1864 Clarke, J. Clough, Nottingham.
 1861 Clement, W. Salisbury, Bath.
 1878 Clements, Thomas, Colville-road.
 1861 Cobb, J. S., Great Yarmouth.
 1863 Cole, J. Fenn, Ipswich.
 1860 Coleman, A., Savile-row, W.
 1872 Coles, James Oakley, Upper Wim-
 pole-street, W.
 1875 Cook, Augustus, Upper Norwood.
 1879 Cook, Stanley, Barnes.
 1875 Corbett, J. J. F., Cork.
 1863 Cormack, Alexander, Edinburgh.
 1863 Cormack, David, Margaret-st., W.
 1879 Councell, Ed. Arthur, Bristol.
 1863 Cox, Edwin, Preston.
 1861 Cunningham, J. T., Edinburgh.

D.

- 1879 Daish, W. George, Ryde, I. of W.
 1863 Davies, E. L., Canonbury-road, N.
 1862 Davis, Murray, Old Burlington-st.
 1860 De Lessert, C. G., Wolverhampton.
 1863 Dennant, John, Brighton.
 1860 Devonshire, J. K., Great Coram-st.

- 1879 Dewes, H. W., Ashby-de-la-Zouch.
 1862 Dickenson, M. de C., St. Leonards-on-Sea.
 1863 Didsbury, J. Montague, Paris.
 1860 Doherty, William Izod, Dublin.
 1879 Drinan, Arthur, Dublin.
 1879 Dudley, Ed. Lewis, Portsmouth.
 1863 Duff, A. M., Leicester.
 1861 Dunn, C. William, Florence.
 1863 Dykes, R. Colville, East Acton, W.

E.

- 1870 Ebbetts, Francis F., Margaret-st.
 1860 Elliott, John Wilcox, Finsbury-sq.
 1862 Elwin, John, Southampton.
 1875 Eskill-Clifford, H. H., Dublin.
 1860 Evans, John, Albany-street, N.W.

F.

- 1876 Farebrother, H. J. L., Stockwell.
 1863 Finzi, S. Leon, Gower-street, W.C.
 1877 Fisher, Wm. Macpherson, Dundee.
 1860 Fitken, J. Spencer, Fleet-street.
 1860 Fletcher, J. B., New Burlington-st.
 1870 Forster, George Graham, Durham.
 1860 Forsyth, W. F., George-street.
 1878 Fort, Jas. Wilson, Lancaster.
 1861 Fort, William, Preston.
 1863 Forward, Reginald, Southsea.
 1875 Foss, A., Stockton-on-Tees.
 1878 Fothergill, Edward, Darlington.
 1873 Fothergill, John A., Darlington.
 1863 Fothergill, William, Darlington.
 1863 Fothergill, Alexander, Darlington.
 1863 Fowler, C. Jevons, Birmingham.
 1860 Fox, C. J., Mortimer-street, W.
 1863 Fox, G. Frederick, Gloucester.
 1861 Fox, O. Annesley, Brighton.
 1863 Fox, S. B., Exeter.
 1875 Fox, Walter Henry, Gloucester.
 1867 Freeman, B. W., Dublin.
 1860 Freeman, St. George, Waterford.
 1876 Furber, A. Wm., Kentish Town-rd.

G.

- 1875 Gaddes, T., Seymour-street, W.
 1878 Galpin, G. L. Gt. Marlborough-street, W.
 1876 Gartley, J. Alex. Sackville-st., W.
 1874 Geldard, Richard H., Plymouth.
 1873 Gibbings, Ashley, Stratford-pl., W.
 1862 Gibbons, S. C., New Burlington-st.
 1863 Gilbert, W. J., Old Quebec-street.
 1877 Gill, Christopher Lawrence, Bow-road.
 1875 Gill, H. B., Bow-road.
 1863 Gill, Seth, Liverpool.
 1878 Gillies, David, Landovercy.
 1877 Giraud, Louis Georges, Paris.
 1871 Gingell, G. Moreton, Osborn-street.
 1877 Glassington, John Henry, Fulham-road.

- 1861 Goddard, H. H., Northampton.
 1863 Goddard, William, Nottingham.
 1863 Good, J. Saxty, Kensington.
 1863 Grant, J. Sackville, Melbourne.
 1877 Greenfield, John, Brook-street.
 1863 Gregson, George, Harley-street.
 1878 Gurner, John Robert, Brussels.

H.

- 1876 Halliday, M. Wood, Nottingham.
 1860 Hampson, J. D. C., Gloucester-place, N.W.
 1863 Hawkins, Thomas, Queen Anne-st.
 1878 Hardie, Walter Jackson, Montrose.
 1878 Harding, B. Llewellyn, Oldbury.
 1875 Harding, G. H., Acton, near Stafford.
 1866 Harding, T. H. G., Park-sq., N.W.
 1872 Harding, Wm. E., Shrewsbury.
 1863 Hare, G. Frederick, Limerick.
 1860 Harrington, G. Fellows, Ryde.
 1863 Harrison, R., Camden-road, N.W.
 1863 Harrison, R. Euston, Hull.
 1875 Hart, A. A., Newington-green.
 1861 Hart, A. D., Woburn-square.
 1863 Hatfield, J. H., Old Burlington-st.
 1878 Hayman, C. Augustine, Bristol.
 1879 Hayman, Samuel John, Bristol.
 1861 Hayward, H. Howard, Harley-st.
 1864 Hele, Warwick, Carlisle.
 1863 Helfrich, Rudolph, Bayswater.
 1863 Henry, George, Hastings.
 1878 Henry, Martin, King William-street, E.C.
 1875 Henry, W. F., King William-st., E.C.
 1860 Hepburn, David, Edinburgh.
 1873 Hepburn, David, Portland-place.
 1860 Hepburn, Duncan D., Nottingham.
 1878 Hepburn, Duncan S., Nottingham.
 1860 Hepburn, Robert, Portland-place.
 1860 Hill, Alfred, Henrietta-street.
 1863 Hockley, A., Gt. Marlborough-st.
 1863 Holford, J. James, Orchard-st., W.
 1863 Holford, W. T., Half Moon-street.
 1863 Hoole, Stephen, Old Burlington-st.
 1867 Hooper, H. John, Lee-green, S.E.
 1861 Hunt, William, Yeovil.
 1872 Hutchinson, S. John, Brook-street.

I.

- 1860 Ibbetson, G. A., 19A, Hanover-sq.

J.

- 1861 Jameson, W. E., Gloucester-pl., W.
 1876 Jewers, Ernest Edwin, Plymouth.
 1878 Jones, Allan Fredk., Argyle-square.

K.

- 1863 Keeling, G. R., Epsom.
 1875 Keeling, G. R., jun., Epsom.
 1878 Keene, Ed., M.R.C.S., Chelsea.
 1860 Keene, J. J., Boulogne-sur-Mer.

1863 Kempton, H. T. K., Cavendish-pl.
 1878 Kennedy, J., Bannerman, Scarbh.
 1860 Kernot, G. C., Hastings.
 1873 Khory, C., Framjee, Bombay.
 1879 King, Canham, New Cross-road.
 1873 King, E. H. G., Goldaming.
 1860 King, Joseph, York.
 1871 King, Richard F. H., Newark.
 1875 King, Thos. Edward, York.
 1862 Kirby, H. Thomas, Leicester.
 1863 Kirby, S. Amos, Bedford.
 1873 Kissack, Edward T., Manchester.
 1860 Kyan, John Howard, Preston.

L.

1866 Lane, E. F., Keppel-street, W.C.
 1863 Leatherby, W. L., Mornington-cres.
 1860 Leigh, S. George, Leeds.
 1860 Lindsay, John Burke, Dover.
 1863 Lindup, George, Harley-street.
 1860 Lintott, W. H., Wimpole-street.
 1875 Lipscombe, J. M., Kilmarnock.
 1863 Lloyd, Augustus, Boro' High-st.
 1860 Longhurst, Henry B., Old Burling-
 ton-street.
 1862 Longhurst, H. C. H., Leicester.
 1860 Longhurst, S., Old Burlington-st.
 1860 Lows, Andrew, Carlisle.
 1861 Lyddon, George, Reading.
 1870 Lyons, I. I., Queen Anne-street.

M.

1866 M'Adam, G. Christopher, Hereford.
 1860 Magor, Martin, Penzance.
 1863 Manton, J. Nathaniel, Wakefield.
 1877 Margetson, Wm. Edward, Leeds.
 1876 Marriott, G. Herbert, Plymouth.
 1863 Margetson, William, Dewsbury.
 1871 Marsh, Henry, Manchester.
 1863 Martin, E., Tunbridge Wells.
 1861 Martin, J. H. C. E., Portsmouth.
 1876 Mason, Henry Biging, Exeter.
 1862 Mason, J. T. Browne, Exeter.
 1877 Matheson, Wm. Edward, Wharton-
 street, W.C.
 1863 Matthews, A. M., Manningham.
 1860 Matthews, P., Welbeck-street.
 1879 McCall, John Henry, Leicester.
 1863 Medwin, A. G., Blackheath.
 1873 Merson, J., Harley-street.
 1873 Merson, W., Bournemouth.
 1861 Mitchell, F. W., Clapham-road.
 1867 Moon, Henry, Finsbury-square.
 1863 Moore, Leopold, Grosvenor-street.
 1863 Moore, W. V., Plymouth.
 1862 Morgan, W. Thomas, Burwood-pl.
 1877 Morison, John Crooks, Bayswater.
 1863 Morley, Henry, Derby.
 1875 Morris, Wm. Graves, Chester.
 1863 Moseley, Gillam, Sheffield.
 1862 Moseley, A., Newcastle-on-Tyne.
 1873 Mummery, J. H., Cavendish-place.

1860 Mummery, J. R., Cavendish-place.
 1863 Murphy, A. Hallam, Derby.
 1863 Murphy, J. E., Moseley, Derby.
 1877 Murphy, Octavius Brabazon,
 Derby.
 1863 Myers, L. James, St. Albans.

N.

1879 Newton, F. Harriss, Crawley-rd.,
 N.E.
 1878 Newton, J. N. Peill, Liverpool.
 1862 Nichol, W. Henderson, Leeds..
 1863 Nightingale, C. Gibbs, Shrewsbury.
 1878 Noble, Chas. J., Acton.
 1863 Nolan, W. H., Berners-street.
 1860 Normansell, F., Gloucester-st., W.
 1879 Nunn, Samuel W., Old Kent-road.

O.

1866 Oliver, J. Cardell, Cardiff.
 1863 Ollive, Henry J., Oakley-st., S.W.
 1860 Orrock, James, Leicester.
 1860 Owen, George, Islington.

P.

1863 Palmer, T. W. G., Cheltenham.
 1861 Parker, S. Adams, Birmingham.
 1860 Parkinson, E. P., Brighton.
 1860 Parkinson, George Thomas, Bath.
 1860 Parkinson, James, Sackville-street.
 1863 Parks, W. John, Newington-cres.
 1860 Parsons, Robert, York-place.
 1868 Payne, G. William, Ebury-st., S.W.
 1873 Payne, Henry Peter, Southampton.
 1875 Pearman, G. B., Torquay.
 1877 Pedley, Thomas Franklin, High-
 street, Boro'.
 1860 Penny, Geo. Stothert, Cheltenham.
 1860 Perkins, Henry John, City-road.
 1863 Perkins, William, Baker-street.
 1863 Petty, Frank, Reading.
 1873 Phillips, Arthur R., Cavendish-sq.
 1875 Phillips, E. J. M., Liverpool.
 1879 Pike, James Lee F. J., Dumfries.
 1863 Pillin, L. Burgoyne, Conduit-st., W.
 1860 Pilling, Rt. Campbell, Blackburn.
 1872 Poundall, William Lloyd, Brighton.

R.

1860 Randell, Edward, Finsbury-sq.
 1860 Ransom, R., Hanover-street.
 1877 Read, Lawrence, Gower-street.
 1866 Read, Thomas, Holles-street, W.
 1864 Reboul, A. Percy, Liverpool-rd., N.
 1879 Reeve, Walter, Putney.
 1860 Reid, Robert, Edinburgh.
 1873 Richardson, Edwin J., Duke-street.
 1863 Richardson, James, Ealing.
 1878 Ridge, Walter Henry, Kensington.
 1860 Ritson, J. Lewthwaite, Penge, S.E.
 1860 Roberts, Chas. Duncan, Ramsgate.

- 1876 Roberts, Thomas Albert, Charlwood-street, S.W.
 1860 Roberts, William A., Edinburgh.
 1862 Robertson, James, Rochester.
 1875 Robertson, J. L., Cheltenham.
 1861 Robinson, J. George, Brazil.
 1873 Rodway, Henry B., Torquay.
 1878 Rodway, Leonard, Torquay.
 1860 Rogers, Charles, Cork-street.
 1870 Rogers, C. C., Cork-st., Burlington-gardens.
 1860 Rogers, Charles Deeble, Newbury.
 1860 Rogers, Henry, Dorset-square.
 1860 Rogers, Joseph, Hanover-square.
 1863 Rogers, S. Alfred, Manchester.
 1860 Rogers, T. Arnold, Endsleigh-st.
 1879 Rook, Eustace Henry, Thaxted.
 1871 Rose, Harry, Albany-street, N.W.
 1863 Ross, George, South-street, E.C.
 1875 Rowney, Thomas, Hull.
 1877 Rowney, Thos. Walter Farraday, Hull.
 1863 Ryding, Frederick, Dublin.
 1863 Ryding, H. Stephen, Limerick.
 1860 Ryding, William, Dublin.
 1863 Rymer, Samuel Lee, Croydon.

S.

- 1860 Salter, S. J. A., New Broad-street.
 1863 Samuel, P. Wesley, Stockton-on-Tees.
 1860 Saunder, W. D., Lower Seymour-st.
 1876 Sayles, Francis A., Margaret-st.
 1863 Scholefield, James, Huddersfield.
 1860 Scott, Fred. J. Clouston, Swansea.
 1863 Scott, J. W., Edgware-road.
 1869 Scully, J., Indian Army.
 1865 Sewill, H. Ezekiel, Wimpole-st.
 1860 Shortt, John, Indian Army.
 1875 Silvester, S. T., Croydon.
 1862 Simmons, J. J., Burton-crescent.
 1863 Sims, Charles, Birmingham.
 1863 Slater, G. Augustus, Burslem.
 1863 Smale, H. Charles, Manchester.
 1876 Smale, Moreton A., Edgware-rd.
 1879 Small, David Mann, Dundee.
 1861 Smith, G. W., Manchester.
 1863 Smith, Henry, Leicester.
 1862 Smith, Joseph, York.
 1863 Smith, J. Alexander, Chelsea.
 1877 Smith, William Taylor, Marlborough-street, W.
 1860 Snape, Joseph, Liverpool.
 1863 Southam, Richard, Mortimer-st., W.
 1862 Stamper, J. Fenton, Haverfordwest.
 1860 Statham, John Lee, Osnaburgh-st.
 1862 Steele, Joseph, Croydon.
 1876 Stevens, Lewis Wm., Osnaburgh-st.
 1871 Stevens, Mordaunt A. de B., Paris.
 1878 Stevenson, Louis, Edinburgh.
 1862 Stevenson, N., Wimpole-street.
 1863 Stewart, Robert E., Liverpool.
 1877 Stirling, John, Ayr, N.B.
 1863 Stivens, J. Charles, Chester.
 1875 Stocken, James, Euston-square.
 1876 Strickland, F., Alexandra-rd., N.W.
 1863 Stuck, J. Frederick, Liverpool.
 1863 Stuck, W. Rt., Gower-street.
 1863 Surenne, J. G., Edinburgh.
 1863 Sutcliffe, J., Bradford, Yorkshire.
 1863 Sutton, Samuel, Birmingham.
 1863 Swanson, A., Isles, Cheapside.

T.

- 1863 Tanner, Thomas, Manchester.
 1862 Tayler, Daniel, Leicester.
 1878 Taylor, Arthur, Sutton-Coldfield.
 1867 Thompson, S. K., Highgate, Kendal.
 1877 Thomson, Walter Scott, Denmark Hill.
 1879 Thorman, Fredk. J., Stratford, E.
 1862 Tibbits, William, Leicester.
 Tippet, J. Collins.
 1877 Tod, Ewen Monteith, Colville-road.
 1869 Tomes, C. Sissmore, Cavendish-sq.
 1860 Tomes, John, Cavendish-sq.
 1866 Tracy, Nathaniel, Ipswich.
 1870 Tuck, R. W. H., Chichester.
 1863 Tuck, W. Richards, Truro.
 1863 Turner, J. Smith, George-street, W.
 1877 Tuxford, James Edward, Lincoln.

U.

- 1878 Underwood, A. Swayne, M.R.C.S., Bedford-square.
 1860 Underwood, Thomas, Bedford-sq.
 1874 Underwood, T. F. K., Bedford-sq.

V.

- 1860 Vasey, Charles, Cavendish-place.
 1871 Vasey, Charles Lyon, H.M.S. "Druid."
 1863 Vidler, T. Collins, Eastbourne-ter.
 1864 Virgin, H. James, Oxford.

W.

- 1860 Walker, Gilbert, Mortimer-st., W.
 1860 Walker, Joseph, Grosvenor-street.
 1860 Walkinshaw, W. B. M., Prince's-st.
 1875 Wallis, C. J., Blackheath, S.E.
 1863 Wallis, G., Queen Anne-street.
 1860 Warren, E., Pritchett, Birmingham.
 1869 Washbourn, Edward N., Taunton.
 1875 Watson, D., Torquay.
 1863 Weaver, George, Upper Baker-st.
 1868 Webster, R. M., Colebrook-row, N.
 1863 Weiss, Felix, Montague-place.
 1876 Weiss, Felix Henri, Montague-pl.
 1879 Weiss, Willoughby Gaspard, Montague-place.
 1877 Welch, James Edward, Brighton.
 1863 Wells, G. S., Kensington-gardens-square.

1863 West, Charles, Finsbury-square.
 1866 West, E. Byatt, New Broad-st., E.C.
 1862 West, J. T. H., Australia.
 1875 Whatford, Jack H., Cavendish-sq.
 1878 Whatford, Fdk. Russell, Brighton.
 1875 White, C. E., Lavender-hill, S.E.
 1860 White, Richard, Norwich.
 1869 White, R., Wentworth, Norwich.
 1863 White, T. Charters, Belgrave-road.
 1868 Whittingham, A. Watts, Hanley.
 1877 Williams, Edward Lloyd, Rhyl.
 1875 Williams, G. A., Cavendish-place.
 1863 Williams, G. J., Cavendish-place.
 1860 Williams, G. Salusbury, Clifton.
 1877 Williams, Harold, Belgrave-rd., S.W.
 1875 Williams, James, Walsall.
 1866 Williams, W. C., Leamington.
 1860 Williamson, William, Aberdeen.

1876 Willis, Wm. Francis, Blackheath.
 1860 Winterbottom, E., John, Sloane-st.
 1878 Winterbottom, Augustus, F.R.C.S.,
 Sloane-street.
 1863 Wood, W. Robert, Brighton.
 1860 Woodhouse, A. James, Hanover-sq.
 1875 Woodhouse, Rt. Hall, Hanover-sq.
 1876 Woodruff, Wm. H., Leamington.
 1878 Woodward, F. Herbert, Princess-
 terrace, Regent's Park.
 1860 Woolfryes, H., Gloucester-st., W.

Y.

1863 Young, Gavin, Glasgow.
 1875 Youngman, F., Torquay.

Z.

1863 Zinkgraf, F. William, Bavaria.

The following gentlemen have obtained the Dental Diploma of the Royal College of Surgeons of Edinburgh :

Holland, Joseph, Norwich.
 Ladmore, Edwin John, Hereford.
 MacGregor, Malcolm, New Scone.
 Macleod, Wm. Bowman, Edinburgh.
 Matthew, Charles, Glasgow.

Platt, Leon Jablouski, Edinburgh.
 Taylor, James, Dewsbury.
 Vice, Wm. Armston, Isleworth.
 Watson, George Wilkie, Glasgow.
 Wilson, Andrew, Edinburgh.

The following gentlemen have obtained the Dental Diploma of the Faculty of Physicians and Surgeons of Glasgow up to July, 1879:

Gurrie, Peter, Dundee.
 McCracken, Samuel Wylie, Glasgow.
 Melrose, Ebenezer, Ashton.

Melrose, Edwin, Bolton.
 Molloy, Thomas John, Stockport.
 Woodburn, William Stead, Glasgow.

The following examples of the questions put by the Dental Examining Board at past *vis à voce* examinations have been kindly supplied to us by successful candidates for the guidance of future students. We trust they in their turn, if successful, will assist in extending our collection of questions.

Dental Surgery.

What is caries, its symptoms, and treatment ?

Pulp ; treatment when exposed by caries or otherwise ; capping and destruction of pulp ; material used in capping, &c.

The pulp being exposed by caries or otherwise, what would be your treatment ? Under what circumstances would you drill into the pulp cavity ?

What escharotics would you use to destroy the tooth-pulp ?

What symptoms, local and general, would lead you to diagnose between Inflammation of the Pulp and Inflammation of the Investing Membrane of the Root or Roots of the Teeth ?

What would be your treatment for a fungous granulation of the tooth-pulp ?

State the pathological changes that occur in the pulp as the result of inflammation.

Periostitis, diagnosis and treatment of.

How would you pivot a tooth ? steps of the operation, conditions that might arise, and treatment of those conditions. Pivoting, when contra-indicated.

How would you diagnose idiopathic neuralgia from that caused by a carious tooth ?

Practical questions on gold foil, adhesive and non-adhesive, and the different methods of working them ; also instruments best adapted for each.

Questions on extraction of teeth, more especially wisdom teeth.

Questions on extraction of teeth with especial questions on where the

elevator is used; how would you use it; in what cases? Would you use it for upper wisdoms? Your reasons for not doing so, &c.

The accidents of extractions. Paralysis of inferior dental nerve following extraction, its symptoms; treatment.

Alveolar abscess. What is abscess? What forms the wall of the sac? Where do you generally find it? General course an abscess runs. If you had two teeth equally decayed and an abscess opening between the two, how diagnose the offender?

Regulating cases. How would you turn a tooth besides making a regulating case for it?

Which would you remove, supposing the incisor teeth were very much protruded and all the other teeth were sound and you wanted to bring the front teeth in?

What may have been the possible cause of the protrusion of the front teeth?

What would be your treatment in closure of the jaws by a cicatrix; and what other things may close the jaw?

What are the different stages set up when a tooth aches?

What is the appearance of the opening, supposing the abscess to have burst through the cheek?

How would you diagnose inflammation of the pulp, and if caused by the pressure of a filling what treatment would you use?

What is the cause of pus exuding from the alveolus and around the neck of a tooth without abscess, and what is the treatment?

Does contraction take place in the jaw after the removal of temporary teeth?

What has been done in the mouths of the models shown?

What is the treatment of chronic hypertrophy of the gums?

What is the treatment of a congested and irritable state of the gums?

Shown specimens and preparations of ossification of the pulp; polypus of pulp, &c., &c., and asked cause and treatment.

Exostosis, diagnosis and treatment of.

What is antral abscess? Is it a true abscess? The origin of the sputum.

Describe the casts numbered 1, 2, 3, and 4; and state how you would treat the irregularities of the teeth which they exhibit.

How would you treat an obstinate case of hæmorrhage, after the extraction of a tooth or teeth, locally and constitutionally?

How would you diagnose a tumour in the antrum? What are the leading characteristic signs?

How would you treat a syphilitic cleft palate constitutionally: would you be inclined to have recourse to mechanical appliances?

In an exceptionally difficult case of eruption of a wisdom tooth, where the first and second molars still remained and both perfectly sound, how would you proceed?

What takes place regarding the growth of the jaws and eruption of the permanent teeth after the premature loss of the temporary front teeth—say incisors and canines lost from violence at about two years of age? Would the permanent teeth appear in regular or irregular position?

Questions asked on the order and time of eruption of temporary and permanent teeth.

What is the treatment of hæmorrhage from the socket of an extracted tooth?

Why does an abscess open sometimes externally?

Shown specimens of *radicular odontome*.

How is it formed, and what is its structure?

What structure is it that probably secretes the fluid in a dentigerous cyst?

Diagnosis and treatment.

What is the treatment for fungous growth of pulp?

Treatment for congested gums.

In what way does aconite act?

Shown a model of a child's upper jaw, with the two central incisors standing within the teeth of the lower jaw, and asked what means you would take to move them into proper position.

Shown a first lower molar of the right side, and asked what tooth it is. How do you know that it is a first molar, and not a second or third?

Shown specimen of alveolar abscess in spirit—how caused, and treatment? What formed the sac?

Dislocation, unilateral and bilateral, symptoms and treatment.

Shown specimen of epulis in spirit—how caused, and its treatment? Does an epulis spring from any other tissue than periosteum?

Shown specimen of exostosis—how formed, symptoms, and treatment?

Explain the pathology of specimen shown, and the cause of the disease by which it had been affected. (Specimen was a lower jaw, the alveoli of which was much absorbed, and there were depositions of tartar upon the necks of the teeth.)

Describe the structure of an epulis and polypus.

What is a dentigerous cyst? causes, contents, &c.

Can a dentigerous cyst be present without any teeth being absent? if so, give cause.

What is an odontome? give classification.

Earlier stages of alveolar abscess.

Suppose a woman about 23 came to you complaining of pains in the neck and arm, and with difficulty in opening her mouth; diagnosis and treatment.

What would be the consequence if this was left too long?

Surgery.

What is a ranula? its appearance.

Symptoms and treatment of tonsillitis.

What is an epulis? appearance and treatment.

Mention some of the tumours which we find in the upper jaw, malignant and non-malignant.

How would you diagnose a tumour of the antrum?

Symptoms of disease of the temporo-maxillary articulation.

Disease of jaws, necrosis, &c. The effects of tertiary syphilis on the bones of the face, soft tissues, and teeth. Tongue-tie, operation for. Diseases of tonsils. Parotitis.

Is it necessary to remove bone in consequence of abscess in the substance of the jaws?

Disease of mucous membrane of the mouth in early years.

Ulcers and their treatment, especially those of the tongue, how caused and treated.

Carious teeth and discharge from the nose, how would you account for latter?

Suppose a young man, say 21, came to you with great difficulty in opening his mouth—pain and swelling of the jaw, rheumatic pains in the shoulder, &c., what would be the cause of this and state treatment?

What is a dentigerous cyst? what is it formed by?

Have you ever seen the tongue furred? What forms the fur? And, also, what is it caused by?

What would be your treatment of an ulcer of tongue, caused by ragged edge of a carious tooth?

Describe the action of nitrate of silver if applied to an ulcer?

What kind of deposit do you get from the salivary glands, and where does it accumulate in the greatest abundance?

Do you ever get an obstruction of the ducts of the salivary glands? And if so give the treatment.

What is a ranula? And would you, as a Dental Surgeon, operate for its removal?

Fractures of the jaws, symptoms, causes, relatively frequent parts of the diagnosis, prognosis, treatment by all the methods used.

Epithelioma of the lower lip, pathology, causes, symptoms, treatment.

State the manner of insertion of harelip pins, and what is the object to be gained by them?

Harelip, treatment. Which harelip pin would you put in first, and how deep would you pass it?

Should they include the mucous membrane of the lip?

State the differences between syphilitic and congenital cleft palate; the treatment to be adopted?

Does the voice become more affected in one or the other, and which is most capable of cure?

Dislocation of the jaw, symptoms, causes, pathology, and methods of treatment.

Is it ever without deformity, and does a partial dislocation ever occur, and at what period of life?

Questions on epulis, diagnosis, pathology, and treatment.

Ulcers of tongue, diagnosis between 1st, simple ulcer caused by the ragged edge of a decayed tooth, 2nd, syphilitic ulcer, and 3rd, epithelioma, and the treatment indicated in each case.

Do you get an ulcer of the tongue in primary, secondary, or tertiary syphilis?

Cleft palate, treatment. What muscles do you divide in staphyloraphy? How would you treat a cleft produced by syphilitic ulceration?

What is inflammation? How would you diagnose it? What is the most constant sign of inflammation?

What is abscess? Their diagnosis and treatment.

Would you leave fragments in fractures of the jaw?

Diagnosis and treatment of cystic disease of lower jaw.

How would you tell an exostosis of the superior maxilla?

Why is necrosis less likely to occur after fracture of the upper than of the lower jaw?

What conditions of the teeth give rise to chronic closure of the jaws? How would you treat such closure, and the conditions giving rise to it?

What are the local symptoms of periostitis of the lower jaw? and what are its effects?

Have you seen the superior maxilla removed, and what incisions were made?

About what age does exanthematous necrosis usually occur? Are the permanent teeth lost as well as the temporary in necrosis following the exanthemata?

Give the different causes of necrosis.

How does repair take place in the upper and lower jaws respectively?

In the adult, do we get bone formed in either or both jaws after necrosis?

What are the symptoms of concussion of the brain?

Can you tell if a patient is suffering from concussion or compression?

If a foreign body gets into the larynx what are symptoms and treatment?

If it passes to the lungs which side would it go, and why?

How is tracheotomy performed, and for what purpose?

Pathology, and different forms of dislocation and treatment?

What is otorrhœa?

Have you ever seen a case of abscess of the antrum? How caused, and your treatment.

Have you ever seen chloroform administered? In the event of a patient not recovering, what treatment should you adopt? How does death take place?

How would you diagnose fibrous tumours of the gums? Give their structure, the cause and treatment.

Cancrum oris—how caused? Diagnosis and treatment.

How would you treat fracture of the upper jaw? Which jaw is most liable necrosis?

Does inflammation of antrum ever occur independently of diseased teeth?

What do you understand by the term necrosis?

What are the causes of necrosis of a bone?

What occurs in acute periostitis?

What would take place if a portion of the body of the lower jaw became necrosed?

What incisions would you make in order to remove the sequestrum, and how would you remove it?

- How is the new bone formed ?
 What diseases have you seen in the mouth ?
 How would you treat a case of simple stomatitis ?
 Give a prescription for an aperient.
 What are the symptoms of irritation of a tooth ?
 What are the causes of irritation of the periosteum of a tooth ?
 What are contour lines ?
 The structure of the gums ?
 Exostosis ; whether ever vascular ?
 Various forms of secondary dentine.
 Variation in thickness of cementum in different parts of the fangs.
 Instruments used for the extraction of the teeth.
 Shown several models of irregularity—how would you treat them ?
 With crowded mouths what teeth would you remove, and why those in preference ?
 Describe the ethmoid bone.
 Give the openings into the three meatuses of the nose.
 Shown a preparation in pickle of half the head and neck cut vertically across, and asked to point out the several structures exposed and cut through.
 Definition of an ulcer.
 The distinctive characters of a simple, irritable, indolent, and varicose ulcer
 Cause of a varicose ulcer, and its treatment.
 What is a granulation
 How do ulcers usually heal ?
 How would you perform “Staphyloraphy ?”
 When a child accidentally swallows hot water, what is the most frequent cause of death ?
 Describe a polypus of the nose and mode of treatment.

Dental Anatomy.

- Shown model to determine age.
 What are supernumerary teeth ?
 What are supplemental teeth ?
 Differences in the two classes.
 If a tooth is fractured far down in the socket is it likely to unite ?
 If all the temporary teeth are removed, say at 2½, will jaw become contracted ?
 What are the different views concerning membrana præformativa ?
 In degeneration of the pulp, what are the principal changes that occur in vessels ?
 How is absorption effected ?
 To what issue does the formation of secondary dentine tend ?
 Describe the structure of cementum.
 Describe the development of dentine ; the manner calcification takes place ; course of tubes, their terminations and anastomosis ; contents of tubes.
 Describe an odontoblast cell, and mention the processes, and state their functions.
 What is the granular layer ?
 Describe the development of enamel.
 Describe the membrana eboris and arrangement of cells. What part does it take in development of dentine ?
 Structure of periosteum of socket, and its nerve supply.
 Structure of tooth pulp, its vascular and nervous supply.
 Do you find Haversian canals existing in the cementum in exostosis ?
 Specimen shown under microscope—specimen of secondary dentine—how formed and structure ?
 Give me the course of the dentinal tubes in the crown, neck, fang, and the fork between the two fangs of a lower molar.
 How do the dentinal tubes end in the crown, neck, and fang of a tooth respectively ?

Describe the course of the enamel-fibres.

What is osteo-dentine, and where is it found?

How is secondary dentine formed?

What causes the formation of secondary dentine?

In what form does secondary dentine appear in the pulp?

What relation does dentine of repair bear to the pre-existing dentine?

Shown specimens under the microscope of bone, dentine, and osteo-dentine.

Give the arrangement of the fibres of the Gasserian ganglion.

Dental Anatomy and Physiology.

Describe the microscopical structure of the tooth-pulp. Structure and formation of secondary dentine. Under what circumstances does the pulp cavity become filled with osseous tissue?

Describe structure of cementum and of bone. How would you distinguish one from the other microscopically?

In geminate teeth what constitutes the bond of union?

In what condition are the jaws of a three months' fœtus?

When is primary dentition completed?

In what respect in the early condition of growth are the enamel cement and dentine alike?

What is the structure of the three pulps from which the dental tissues are formed?

In what way do the cells of the three pulps differ, &c.?

Given models to determine ages.

What is the structure of dentine?

Where does calcification begin in the dentine, enamel, and cementum?

At what age do you find the first appearance of dental organs?

When is permanent dentition completed?

Age at which the temporary canine is cut?

How does development take place in each of the three pulps, from within outwards, or *vice versâ*?

Describe the manner of deposition of the earthy salts in enamel dentine and cement.

What are the courses of the contour markings in the enamel and dentine?

How do the dentinal tubules end?

What is the surface of dentine like when the enamel has been removed from it?

What is found at the summit of the elevations mentioned?

Questions on the *gums*. Structure, epithelium, and papillæ of gums; blood-vessels to ditto, &c.; nerve supply, &c.

Questions on the *periosteum*, &c.; structure, &c.

Enamel, structure of, and calcification of enamel fibres, &c.

Questions on dentinal fibres and their sheaths.

Arrangement of nerves and vessels in Dental pulp.

Are the nerves of the pulp continued on into the dentine?

Questions on the *membrana eboris*.

Shown several teeth to give their position in the mouth, and point out the distinctive features of each.

Describe the action of mastication.

Describe the articulation of the jaws in man, the tiger, and the capybara.

What are the specific characters of the cell-nuclei in the formative organs respectively of the dentine, the enamel, and the cementum?

Describe the anatomical condition of the lower jaw in relation to the teeth, both temporary and permanent, in a child five years of age.

Name the different structures of a tooth, their chemical compositions, and percentage of animal and earthy matter.

Dilacerated teeth, shown specimen of, and asked during what period it had occurred?

What is the difference between a supernumerary and a supplemental tooth?

Anatomy and Physiology.

Give the muscles employed in deglutition.

Shown right superior maxilla, asked its bony attachments, and nerve in relation with it.

Point out where the facial artery crosses the lower jaw.

What nerves pass out of the skull through the sphenoidal foramen, and also through the foramen rotundum and foramen ovale?

Where does Steno's duct open, also Wharton's duct?

By how many ducts does the sublingual gland open into the mouth?

What muscles depress the jaw?

What muscles protrude the jaw?

What muscles draw back the jaw?

What muscles fix the hyoid bone?

What muscles protrude tongue?

What muscles draw in and draw back tongue, and give their nervous supply?

Chemical composition of saliva. What other glands besides the salivary situated in the oral cavity, their use and structure. Deglutition, changes of shape undergone by pharynx, &c. Alimentation. Structure and nervous supply of œsophagus and stomach. Gastric juice, composition and use. Structure of a gastric follicle. Nerve of sensation to face. Symptoms of paralysis of the motor nerve of the face. Soft palate. Nerve supply to upper and lower teeth.

Describe the lower jaw, &c. Temporo-maxillary articulation. Difference in foetus and adult.

Tongue, structure, and nerve supply.

What bones enter into the formation of the joint?

How many, and what, are the ligaments of the joints, their origin and insertion?

Is the interarticular ligament ever perforated?

What are the muscles of mastication? Give the origin, insertion, and nerve supply of each.

Given a lower jaw to mark out the exact insertions of internal pterygoid, external pterygoid, buccinator, masseter, digastric, &c.

Microscopical specimens shown; what are they, and from what portion of tooth did they come asked.

Nerve of supply to ear.

Describe actions and use of buccinator. Give the course of inferior dental nerve. Name the muscles of the soft palate and give their nervous supply.

How does the inferior maxillary nerve leave the skull?

What passes through the foramen rotundum?

Does the superior maxillary nerve supply any of the muscles of mastication?

What arteries supply the incisor and molar teeth of the upper maxilla?

What are these arteries branches of?

Describe the course of the internal maxillary artery with regard to the ramus of the jaw and pterygoid muscles. Name all its branches in which it ends.

What nerves, vessels, arteries, and veins are in relation with the parotid gland?

What does the infra-orbital artery anastomose with?

What other arteries supply the face besides the facial?

What does the venous blood of the face enter, and what vein does it eventually enter?

What is the upper surface of the palatal process of the superior maxilla like?

What fits into the groove described?

Give the relations of the vomer?

How is the septum of the nose completed?

Is that septum always straight, and, if not, how may the deviation be accounted for?

In harelip what forms the portion between the two fissures?

How would you treat that portion if much protruded?

Questions on the bones. Nasal bones, articulations, &c. What bones form the hard palate? With what bones does the palate bone articulate, and what fossæ does it enter into the formation of?

Pillars of fauces, what formed by.

Tonsils, situation of, structure, glands of, &c.

Œsophagus and pharynx nerve supply, &c.

What bones form the septum of the nose?

What bones enter into the formation of the orbit?

What is the distribution of the glosso pharyngeal nerve?

What is the course of the dental canal? Its contents—their origin and distribution.

Describe the ramus of the lower—the muscles connected with it—their origin, insertion, and action.

Shown preparation to point out Steno's duct, transverse facial artery, and facial nerve. Where does the latter escape from the skull?

Describe the structure of the salivary glands, their situation and relative size, the course and termination of their ducts, and the influence of the saliva on food.

Taken over the cranial nerves, more particularly the branches of the fifth.

How many ducts are there to the principal salivary glands?

Do the cells in the ducts belong to the secreting apparatus?

Are the glands always secreting?

Sinuses of the skull and blood supply.

What bones close in the opening of the antrum?

What forms the nasal duct?

Is there any difference in structure between lachrymal and salivary glands?

What is there peculiar about the salivary glands?

Point out the bones which enter into the formation of the base of the skull.

What bones form the pterygoid fossa?

How many turbinated bones are there? Which of them exist as separate bones? What are they lined with? The kind of epithelium, and name the openings into the meatus.

Describe how the mucous membrane of the nasal fossa is continuous with that of the œsophagus and larynx, &c.

What is the length of the œsophagus, structure, &c.? Which coat is the thickest?

Describe the movements the pharynx undergoes during deglutition.

Give the relations of the œsophagus.

How many openings are there into the pharynx?

Describe the movements of the larynx.

The length. Trachea: how it terminates, which bronchi is the largest and longest, where do they end, and how many lobes, and the structure of the lungs.

Describe the tongue and its mucous membrane, and enumerate the muscles, intrinsic and extrinsic. Do the anterior ethmoidal cells communicate with the posterior ethmoidal?

Point out the bones that enter into the formation of the orbit.

What foramen open into the orbit, and what structure pass through them?

What is the course and distribution of the orbital branch of the superior maxillary nerve, and is it connected with any other nerves?

What bones bound the sphenomaxillary fissure?

Does the superior maxilla ever articulate with the sphenoid? Explain how it does so.

Name the muscles of the face, and point out their origin.

What do you find beneath the levator labii superioris proprius?

Give me the insertion of the occipito-frontalis muscle.

Give me the course of the facial artery on the face, and name its branches.

Do the coronary arteries lie nearest the skin or the mucous membrane of the lips?

Where does the facial vein commence? and what relation does it bear to the artery? and where does it empty itself into?

How is the external jugular vein formed? Give me its relations, and where does it empty itself?

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

EXAMINATION PAPERS FOR DIPLOMA IN DENTAL SURGERY.

The following are some of the questions contained in the papers given for the written examinations for the Dental Diploma:

Anatomy and Physiology.

What Bones enter into the composition of the Chest, and how are they articulated with each other?

Describe the course and mechanism of the Circulation of the Blood through the body generally, and through the lungs.

Describe the course of the Aorta through the Abdomen; mentioning its relations, and enumerating, in order, the Branches it gives off in that region.

What are the constituents of the Atmosphere, and their relative proportions? Describe the changes which occur in Respired air.

From what sources does the Liver receive its blood? and how does the Bile find its way into the Intestines?

How is Arterial Blood distinguished from Venous? and on what does the difference depend?

Pathology and Surgery.

Explain how Death may be caused by the inhalation of Chloroform, and what steps you would take to avert a fatal result, if threatened.

What are the pathological changes which occur in the formation and healing of an acute Abscess (*e.g.* of the Tonsil)?

State what are the signs and the immediate consequences of Fracture of a Long bone; and mention the Principles upon which the treatment of such an injury is to be conducted.

Define what you mean by an Ulcer. Mention in what respects the discharge from an ulcerated surface varies under different circumstances, and explain to what causes such variation is due.

Define what is understood by "Mumps," and state how you would distinguish this from other swellings of the face, both as regards the seat of the complaint and its signs and symptoms.

What means would you employ to arrest Hæmorrhage from an incised wound of the Tongue or Palate?

Dental Anatomy and Physiology.

Describe the nature of a tooth-germ, and the mode of its formation; and also the sources of origin of the germs of the different permanent teeth.

Explain the terms "Monophyodont," "Diphyodont," "Homodont," and "Heterodont," illustrating them by reference to Comparative Dentition.

Why are teeth called "dermal appendages?" Give an example, taken from Comparative Anatomy, of the meaning of the term.

Describe how the movements of Mastication are affected, and the physiological action of the Saliva.

Enumerate and describe the varieties of Dentine in the teeth of man and the lower animals, and give examples.

What is meant by a dental formula? Give the typical mammalian dental formula, and also that of man, and of any other mammals which may occur to you. Which are the teeth usually absent in departures from the typical formula?

Dental Surgery and Pathology.

What is Salivary Calculus? Give its chemical composition; state where it is usually deposited, and its effects.

What are the varieties of Fracture to which the teeth are liable? State the consequences that may arise from them respectively, and the necessary treatment.

Give a full description of Supernumerary teeth, and of the treatment to be pursued in respect of them.

Describe the various methods of applying artificial teeth, and mention the important surgical and mechanical points to be regarded.

Enumerate the abnormal conditions of the Dental organs which may give rise to Neuralgia.

What are the chief causes of inflammation of the periodental membrane? Describe the formation and progress of an Alveolar Abscess.

Describe the symptoms and effects of Phosphorus and Mercury on the gums and alveoli.

Mention the principal irregularities of the permanent teeth; the causes, and treatment of them.

What are the most usual nervous affections having a Dental origin? Mention the nerves which are respectively implicated in their production.

CONDENSED LIST OF BOOKS FOR A DENTAL STUDENT.

Anatomy.—Gray's Anatomy. . Heath's Practical Anatomy.

Physiology.—Kirkes' Manual of Physiology; edited by Morratt Baker.

Chemistry.—Fowne's Manual of Chemistry.

Surgery.—Druitt's Surgeon's Vade Mecum. Heath's Injuries and Diseases of Jaws.

Histology.—Stricker's.

Metallurgy.—Makins' Manual.

Dental Surgery.—Tomes's Manual. Harris's Principles and Practice of Dental Surgery.

Dental Mechanics.—Oakley Coles' Manual. Hunter's Mechanical Dentistry.

All the above can be procured of Messrs. J. & A. Churchill.

NOTICE.

PRIOR to August 1st, 1879, no Dental examinations were compulsory; we have therefore in past years furnished a great deal of information as to the nature of the examinations, which we shall not give in future, now that the possession of a diploma by examination is compulsory on all desirous of becoming Dentists. In future, therefore, intending students must apply to the different Institutions—a list of which we shall publish—for their respective calendars, which contain, in full, all the required details.

British Journal of Dental Science.

No. 280. LONDON, SEPTEMBER 15, 1879. VOL. XXII.

Editorial.

At the commencement of this, our first fortnightly issue, we must first give our best thanks to the many kind friends who have supported us through twenty-three years of existence, and, secondly, to those who, after the announcement in our last issue that we should in future appear twice a month, have written to us the most encouraging letters of approval and promised support. We regret that we cannot publish any of them, owing to the pressure on our space occasioned by the lengthy report of the inaugural meeting of the Western Counties Dental Association.

The value and need of a more frequent issue of this Journal, such as is supplied by its being published every fortnight, could not have been better exemplified than on the present occasion. Were we to publish the whole of the report of the Western Counties Dental Association as sent to us, with all the papers read at the meeting, we should require the space of a journal and a half, and then have to omit *all* other matter from the Editorial, to the short notes of correspondents, such as those from our Canadian friends and others who seek in our pages the most prompt method of replying to inquiries resulting from the wide-spread circulation of this Journal, even to such remote regions as South Africa. We have, moreover, to consider the claims of those who have written specially for our pages—the force of whose papers would be weakened by delay. Then, again, there are many extracts from other papers bearing upon current or recently current topics, which have been already in type for some time, but have been crowded out of previous issues by more pressing matter, and these, if left longer without publication, would become so utterly out of date as to necessitate the breaking up of the type, thereby entailing

upon us a loss which, in view of the additional expenses we are now incurring in the double issue, we cannot resolve upon. With all these difficulties before us, and trusting that our friends and readers will remember that we cannot give to any one society a monopoly of our pages, we have decided upon this occasion to publish only the report of the *proceedings* of the Western Counties Dental Association, and to reserve a full report of all the papers read thereat for our next issue, which will appear on October 1, rather than now give the whole in a curtailed or abstract form.

We take this opportunity to make a few further observations upon the relations between ourselves and our readers.

Although at this period there is abundance of matter to fill the pages of our fortnightly issue, and probably as time rolls on, and fresh societies, fresh interests, spring into existence, there will still be plenty, yet to us, as to all other journals which profess to be faithful records of the TIME, there will come periods of inaction when there will be little to record, and then, unless our friends will send useful practical papers to hold in reserve for such occasions, we must fill the gap with reviews of, and extracts from, the current Dental literature, so that our readers may form some idea of what is being done to advance the scientific progress of our specialty in other circles than our own. Cynical fault finders there always are, and always will be, among all classes. Certainly we do not expect that they will be wanting among the readers and subscribers to this Journal; we have found them even among those from whom we had the least reason to expect it, from men even who to a great extent owe their public position to our pages, but singularly enough—though, perhaps, we ought not to say singularly for it is the way of the world—those are often the very men who help us least—in fact, in many instances not at all. Now, if some of these cynical gentlemen instead of sneering at the inferiority of certain papers we publish would take the trouble to supply us with better, or incite their younger brethren to do so, their cynicism would be to some purpose, and we should be grateful for it.

However, somehow, notwithstanding our many imperfec-

tions, our circulation increases monthly, our issues are, indeed, so often out of print and unequal to the unexpected demands, that we are repeatedly increasing the number of copies we print off, and we promise our friends that, if their still increased support in our new venture enables us to tide successfully over the additional expenses we must incur, we will spare no pains and no expense to keep this Journal at the head of its class.

Dental Surgery and Medicine.

IMPRESSIONS FOR UPPER SUCTION CASES.

By ALVERSTONE GABELL, Esq.

ALL your readers, no doubt, have found in taking the above impressions sometimes great difficulty in getting the impression away from the impressed parts, owing to the power of "atmospheric pressure and capillary attraction," and as on this subject I have seen at different times articles in the 'British Journal of Dental Science,' describing different methods for getting over this stumbling-block, all of which have appeared to me more or less objectionable, I write these few lines with the object of acquainting the profession of the simple method by which I master the difficulty. I invariably make use of the "Godiva Composition," and after being very careful to get a good fitting tray, take the impression in the usual manner, giving it good time to harden; in fact, I see that the surplus "Godiva" at the back of the mouth is well set before I think of removing the tray. If I then find the impression holds fast, I ask the patient to swallow, putting a *slight* downward pressure on the tray at the same time. I find that I never have to ask the patient to perform the action more than twice, and usually the tray comes away with the greatest ease the first time of asking.

The reason for this will be obvious to all your intelligent readers on trying the experiment, which will not put them out of their way much, so I need not take up your valuable space by explaining it.

DENTAL HOSPITAL OF DUBLIN.

At a meeting, held August 29th, Joseph Bloom, Esq., and Alfred Denton, Esq., were elected Assistant Dentists.

Chemical Department.

CONTINUOUS GUM-WORK.

IN reply to Mr. Balkwill, I should hardly expect to work a furnace to a white heat on a wood table without either raising it from the wood or interposing some protection. The loss by radiation may be exceedingly small and yet be quite sufficient to set a dry board on fire.

If Mr. Balkwill failed to get heat enough, it certainly is not the fault of the furnace, as the whole can be easily fused with any gas, however bad, provided the gas supply is sufficient and the blower gives a good pressure of air. The power can be increased to any extent by opening the air jet, provided the gas supply is sufficient to fill the casing with flame.

The only place where the products of combustion can obtain access to the work is round the outside rim, this joint being not only freely exposed to the air, but also being outside the cover; I could scarcely imagine a case where it was possible even to force the products of combustion into the chamber. It can be entirely prevented by a little simple luting round the edges, which can be done in a few seconds. In my own experience this luting is totally unnecessary, and I am certain the discoloration Mr. Balkwill mentions was not caused by the products of combustion obtaining access to the work.

I have never done any finished work in continuous gum. I do not think the work is ever likely to become general, as, notwithstanding its beauty, it has inherent faults which, so far as my own practice is concerned, would totally condemn it. Continuous gum work at its best is hardly as strong as any other form of artificial work, and is not strong enough for the rough handling plates frequently get. When an accident occurs the time required for repair is much longer than for any other class of work. My object is to make every case as strong as it possibly can be, and to select a system of making which enables repairs to be made rapidly and well. In these essential points continuous gum fails to be satisfactory for general use.—THOS. FLETCHER.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE next examination for the Dental Diploma will be held on Monday, October 20th.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM AUGUST 1ST TO AUGUST 31ST, 1879.

Extractions	{ Children under 14	484
	{ Adults	844
Under Nitrous Oxide		260
Gold Stoppings		73
White Foil ditto		14
Plastic ditto		330
Irregularities of the Teeth treated mechanically		30
Miscellaneous Cases		64
Advice Cases		95

Total..... 2194

JOHN H. McCALL,
Dental House Surgeon.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM AUGUST 1ST TO AUGUST 31ST, 1879.

Number of Patients attended		1056
Extractions	{ Under 14	385
	{ Adults	554
	{ Under Nitrous Oxide	56
Gold Stoppings		34
Sheets of Gold used, independent of Pellets		61
Other Stoppings		228
Advice and Scaling		119
Irregularities of Teeth		13
Miscellaneous		37

Total operations

1426

WILLOUGHBY G. WEISS,
House Surgeon.

Literary Notices and Selections.

IDENTIFICATION OF THE PRINCE IMPERIAL.

THE circumstances of the Prince Imperial's death have revived a question which has been somewhat neglected by lawyers and physicians, viz. the importance of the teeth as a means of identification of deceased persons. The late Prince Imperial had been so much disfigured that identification would have been extremely difficult but that the Prince had had four small cavities in the first molar teeth filled with gold by Dr. Rottenstein, of Paris, and had met with a slight

accident in April, 1876, from a blow on the front teeth, which had made it necessary to file the teeth a little in order to smooth the enamel. These constituted signs which are unalterable even by ages; and, as careful Dentists keep usually a record of such operations, they afford a means of identification which is unerring, and which, as in the present instance, was of great value, and might, under certain circumstances, be of the highest importance.—*Brit. Med. Journ.*

MANAGEMENT OF PROXIMATE SURFACES OF BICUSPIDS AND MOLARS.

By SAFFORD G. PERRY, D.D.S., New York.

Read before the New York State Dental Society, May, 1877.

(Reprinted from the 'Dental Cosmos'.)

(*Concluded from page 324.*)

LET me hastily sketch that experience, though it compels the use of the personal pronoun oftener than I wish, and betrays me into the expression of motives and feelings when I ought to be giving you scientific reasons for the conclusions I have reached. My earliest method of managing these surfaces was to cut until I reached sound structure, and then to fill even with the edge of the cavity, giving little thought to the shape of the teeth, the safety of the gum, or the danger of future decay. This was before the rubber dam. Later, under the influence of the late lamented Dr. Varney, and from observation of Dr. Atkinson's method, I became convinced of the advantages of accepting nature as a guide, and for several years, in most cases, I made strictly contour fillings.

In 1870, in a paper read before the Odontographic Society of Pennsylvania, and published in the November 'Dental Cosmos' of that year, I am on record in favour of such operations. Several years' experience developed no objections to them, except that they were difficult to perform, were expensive, and confined attention to a limited number of patients.

After the publication of Dr. Arthur's book, I began to question if I had not been doing unnecessary work. A careful study of his system, with such observation of its practical effects as I could obtain, led me to think favorably of it. A growing practice forced me to be ready to accept any method that fairly promised the greatest good to the greatest number. Therefore I "first endured, then embraced." I commenced timidly, but grew bolder as I became more accustomed to cutting the teeth. Finally, I became so

demoralised as to willingly destroy the shapes of teeth that I had before guarded with jealous care. I made all the different kinds of separations described in this paper. I made them very carefully and always endeavoured to avoid annoyance to the gum, and whenever I could to prevent change of position of the teeth. My general rule was to reduce the surfaces in contact to a point of minimum size.

The result of that practice, extending over a period of four or five years, has not fulfilled its promise. It has proven instead a source of discouragement and mortification. Failures which formerly occurred only in reasonable numbers, have, under this system been surprisingly frequent. The average of operations performed seven and eight years ago is to-day standing more securely than the average of those performed three or four years ago. Irritation of the gum and change of position of the teeth which could not occur before, have, frequently followed this practice, even though I have taken the greatest care in making the spaces.

There has been left me, therefore, no alternative but to return to the restoration of the shapes of the teeth as a general rule of practice. Considerations of pecuniary interest would lead me not to do this. The hopes of health and long life are certainly not strengthened by it. But it has come to be so much a matter of conscience that I have no choice. I can no longer adhere to the practice of permanent separations and feel that I have rendered my patients the service they have a right to expect. Nor can I longer bear the demoralising influence which this practice encourages and begets.

During the last year I have been restoring the shapes of the teeth, and the feeling I have had suggests the return of the prodigal son. If I have any satisfaction in reviewing the labour and experience of the last five years, it is that I have learned between what teeth and under what circumstances permanent separations may be safely and advantageously made.

In reply to the general statement that restorations necessitate hard work, I can only say there can be no excellence without labour. In the very nature of things, there can be no royal road to permanent success of any kind. But I think it will weary one but little more to devote six hours each day to a few operations which are performed well, than to give six hours to a larger number which cannot be performed so well. Moreover, appliances have been so improved that even difficult operations are rendered comparatively easy. With the electro-magnetic mallet large contour fillings are no longer so much the dread of patient and operator.

Those who are not using this instrument are losing the service of a willing friend.

As a further slight aid to the restoration of contour I have devised an appliance, by means of which the molars and bicuspid may be screwed apart and firmly held while the fillings are being inserted and finished. I have also devised a set of metal wedges by which, in large cavities, the rubber dam may be carried above the cervical wall and held without disturbing the festoons of the gums, as must be the case with wedges of wood or the ligature. I have also a pair of calipers for measuring the exact distance between the teeth at the cervical wall. By its aid wedges of the right thickness may be easily selected, and holes in the rubber dam cut exactly where they are desired. In case of a missing tooth these become more valuable still in determining the exact width at which the holes should be cut.

Besides all the modern improvements, we have the willing acquiescence of our patients. I think it is a mistake to suppose that they are not willing to encourage us in our efforts to do perfect work. They come to us because they believe we are good operators, and will do for them the best we can. If we ask them if they prefer easy and indifferent operations, their reply will almost invariably be that they desire our best efforts. If we consult their wishes in reference to permanent separations, we will find their common sense prompts them to object to that practice. No amount of sophistry can overcome their instinctive aversion to it.

Can we ask for more than this to encourage us to restore the teeth in as perfect a manner as possible?

There are still other considerations.

Many eminent operators concede that restorations are actually best, but they continue to make separations because they are easier, and because it is hard to change the habit of a lifetime. This will be corrected in time. Younger and fresher men are coming into the field full of courage and high hopes, and through their influence the Dental profession is moving towards a higher standard of excellence. Here and there even grey-haired men are being stirred by this progressive spirit, and with touching sadness are wishing they might live their lives over again.

The logic of this is inevitable. Our profession cannot long rest content with permanent separations, as a general rule of practice. Such separations may have done comparatively well in the past, when nothing better was possible, but I cannot believe they will be tolerated by the practice of the future.

Dental News and Critical Reports.

WESTERN COUNTIES DENTAL ASSOCIATION.

INAUGURAL MEETING, AUGUST 4TH, 1879.

SPENCE BATE, Esq., F.R.S., L.D.S., in the Chair.

ON Monday, August 4th, the Western Counties Dental Association held its first meeting at the Victoria Hall, Exeter, under the presidency of Mr. Spence Bate, F.R.S., L.D.S. The Council, which consisted of all licentiates in Dentistry belonging to the Association, met at 11 o'clock. At 12 o'clock the Members of the Association met for the dispatch of business.

Among those present at the meeting were the following:—Messrs. J. T. Browne-Mason, L.D.S. (Exeter), Treasurer, W. V. Moore, L.D.S. (Plymouth), Secretary, H. B. Mason, L.D.S. (Exeter), Richard Brown, L.D.S. (Tavistock), H. A. King, L.D.S. (Exeter), D. Watson, L.D.S. (Torquay), S. Bevan Fox, L.D.S. (Exeter), E. E. Jewers, L.D.S. (Plymouth), E. N. King, L.D.S. (Exeter), F. H. Balkwill, L.D.S. (Plymouth), W. J. Goodman (Exeter), E. E. Brand (Exeter), R. P. Morrison (Barnstaple), H. Mallet (Exeter), A. Smith (Clifton), J. R. Bate (Tiverton), C. A. Hayman (Bristol), J. Tomes, F.R.S. (London), J. Parkinson (London), J. Smith-Turner (London), A. Parsons (Torquay), J. G. Turner (London), A. Sleeman (Plymouth), G. Parkinson (Bath), W. A. Hunt (Yeovil), G. R. Pearman (Torquay), F. Yongman (Torquay), A. Petrowsky (Barnstaple), E. Goodman (Taunton), A. H. Stringfellow (Taunton), H. J. Holden (Exeter), G. Glover (Plymouth), W. Pearce (Bristol), G. F. Passmore (Exeter), G. Ross (Exeter), T. G. T. Garland (Exeter), C. Gaine (Bath), J. H. Gartrell (Penzance).

The PRESIDENT observed that, although the first business was to confirm the bye-laws, yet, before this, there was an act of courtesy which they owed to some distinguished gentlemen who had honoured them with their presence. The Council recommended that a resolution should be passed making all officers of the British Dental Association *ex officio* honorary members of the Western Counties Dental Association; and he thought as some of those gentlemen had come

down to their meeting they should, as a matter of compliment, pass the resolution before doing anything else, in order that they might take part in the proceedings. (Hear, hear.)

Mr. S. BEVAN FOX (Exeter) said he would propose the resolution with great pleasure. He thought it a great honour to them to have such men present at their meeting as Mr. Tomes, Mr. Smith-Turner, and Mr. Parkinson. His proposition was, "That all officers of the British Dental Association shall be *ex officio* honorary members of the Western Counties Dental Association."

The motion having been seconded by Mr. MALLET,

The PRESIDENT said he hoped it would be carried unanimously. He was happy to say that their friend, Mr. Tomes, who had done so much for them as a body (cheers), and who had so deservedly won the esteem of every member of the profession, had been kind enough to come down and visit them on this the occasion of their first meeting, and he had much pleasure in inviting him to take part in the proceedings. (Applause.)

The meeting then proceeded to the consideration of the suggested bye-laws, which are framed on those of the British Dental Association. Copies had been forwarded to all who had joined the Association; and on the motion of Mr. H. B. MASON (Exeter), seconded by Mr. WATSON (Torquay), it was resolved to adopt them as the bye-laws of the Association, a few words being added to No. 2 to the effect that one of the objects of the annual meeting should be "the reading and discussion of papers."

The PRESIDENT said the next business was to decide the place of meeting for next year. It was understood that the Society should be peripatetic, and according to the bye-laws they were never to meet two years following in the same place. There were to be two general meetings in the course of the year, one to be held at Torquay in December, the other at Plymouth in April. If any Member had a place to propose for the next annual meeting he should be glad to hear his proposition.

Mr. JOS. BROWNE-MASON (Exeter) said it had been suggested that they could not go to a pleasanter place than Bath, if their friends in the town would take them in. He should have much pleasure in proposing that the annual meeting for 1880 be held at Bath. He had no doubt they would find a welcome there.

Mr. AUGUSTUS KING (Exeter) seconded the motion.

The PRESIDENT said there were many reasons why the Society would gain by going either to Bath or Bristol. They wished to make the Society as influential in the pro-

fession as possible, and it seemed to him that if they went to Plymouth or Land's End they would not be likely to attract so many members as if they went eastward. There were a large number of Dentists in Bristol and Bath who appeared willing to join them. It was for these reasons that the Council had thought that Bath would be the best place to go to, particularly as their friend, Mr. Parkinson, was willing to become the President for the year.

The resolution to meet at Bath was carried unanimously.

Mr. HUNT, of Yeovil, then proposed "That this meeting hereby expresses its unqualified approval of the Dental curriculum laid down by the General Medical Council at its last session in July, 1879, and especially of the course taken by the Council in respect to the registration of foreign and colonial Dental qualifications; and furthermore, the meeting ventures to express a strong hope that the Council will not at any time see fit to place upon the Dentists' register qualifications which are attainable in less time or by lower attainments, general or special, than the present English Dental curriculum embodies."

Mr. F. H. BALKWILL, of Plymouth, seconded the motion. He thought it very important that the standard of the profession should be kept up, and that the position of those who had taken the English Dental curriculum should not in any way be interfered with. (Hear.)

The PRESIDENT remarked that if the members of the House of Commons were like the Dentists they would do an enormously larger amount of work than at present. (Cheers.) The resolution proposed was a very important one. It arose from the fact that some foreign societies, such as those at Naples and other places, had the power of qualifying members as Dentists in two years. An ignorant man might thus run down to Naples, and get a diploma in a couple of years, whereas it took five years in England. He did not know that such things were done, but it was desirable to prevent the possibility. Mr. Tomes knew more about the subject than any one else, and perhaps he would wish to say something. (Hear, hear.)

Mr. TOMES, F.R.S., who was greeted very heartily, said the curriculum laid down by the Medical Council—and which the several colleges of surgeons who had the power to grant qualifications in Dental surgery had adopted—was one drawn up or suggested by Dentists themselves. The curriculum was originally framed in the early days of Dental surgery. It was considered by the Council of the College of Surgeons, and modified, no doubt, in certain particulars. At all events, it was adopted, and had been acted upon, speaking

broadly, for something like twenty years. All the licentiates in Dental surgery now in practice, amounting to about 500, had been educated under the curriculum, and it was only fair that those who had undergone the curriculum that the education should be supported to this extent, that no one having a lower qualification should be admitted as a licentiate nor registered on parallel terms with them. (Hear, hear.) The President had alluded to the qualifications granted in other countries, and very rightly too. In Naples there was no curriculum at all, and in many other places Dental qualifications might be obtained on very much easier terms than the qualification granted by the English medical authorities. But those qualifications, granted on such easy terms, could not, it was manifest, be fairly placed on an equality with those granted in England, and would not, in his opinion, justify the Medical Council in placing the recipients of such qualifications on the Dentists' register. (Hear, hear.)

The resolution was then put to the meeting and carried unanimously.

The PRESIDENT then called attention to a paper lying on the table for signature, which he should like, with the permission of the Council, to get signed by as many as possible. It referred to a question which was likely to come before Parliament next year, namely, the use of the title "Surgeon" by Surgeon-Dentists. (The paper was a declaration that in the experience of the undersigned the general public were not in the habit of applying to Dental surgeons in cases other than those arising from Dental disorders, and that they had never treated such cases.) He hoped that no Act of Parliament would be allowed to pass which would deprive Dental surgeons of the title by which they were generally distinguished. (Hear, hear.)

Mr. TOMES, F.R.S., asked permission to say a word on this matter. The purpose of the paper they were asked to sign was to show the House of Commons, if need be, that the public could distinguish, and did distinguish, between a Dental surgeon and a surgeon. It had been asserted by certain writers that the public were quite unable to make this distinction, and they contended that it would be desirable therefore that Parliament should interdict qualified Dentists from using the title, Dental Surgeon. Of course the assertion was a mere statement, and a statement that could not be supported by facts; but in rebutting a statement of that kind, supposing it should be made in the case of a Bill coming before the House next session, it was better to be able to put forward a disclaimer signed by several

persons than a mere statement of opinion unsupported by names. Therefore, those gentlemen who signed such a declaration would be furthering the cause of the profession. They had no wish to increase the powers contained in the Dental Bill, but merely to support the Bill as it now stood. (Hear, hear.)

Mr. J. SMITH TURNER pointed out that the paper was only a declaration that on their part they had not, as gentlemen practising as Dental surgeons, been called upon by the public to perform any act or attend any patients suffering from any ailment that did not arise from disease of the teeth.

The PRESIDENT stated that the majority of those present had already signed.

After further discussion several additional signatures were appended to the document.

The meeting adjourned for luncheon at the residence of the Hon. Treasurer (Mr. J. T. Browne-Mason), but before separating that gentleman directed attention to the valuable collection of Dental instruments sent for exhibition by Messrs. Ash and Co., Messrs. Ritchie, and the Dental Manufacturing Company. He also announced that Mr. Jamieson had forwarded a collection, but it had not arrived, and he was afraid it had gone on to Plymouth. A considerable share of the time unoccupied by the formal business of the day was devoted to an inspection of these articles. Messrs. Ash showed, among other things, an operating chair fitted with spittoon, water glass, tray, and every possible requisite. The chair admits of being elevated to any height that may be necessary by means of an oil-pump actuated by a pedal lever, and is lowered by simply touching a spring, the downward motion being as perfectly under control as the upward, while the motion in each direction is so easy as to be almost imperceptible to the patient. Another feature is that the chair can be balanced at any desired angle. They also showed a patent standard pattern saliva ejector, a surgery lathe and burring machine, specimens of English and American forceps (including a new lower hawk's bill), forceps in the various stages of manufacture, from the rough bar to the finished article, apparatus for working celluloid, &c. Messrs. Ritchie exhibited a combined surgery lathe and Dental burring machine, an operating chair, specimens of Nickold's gold preparations, specimens of mercury purified by electricity, &c. The Dental Manufacturing Company showed among other articles a perfected ladle furnace, with Fletcher's new solid flame-heating burner, which they claim to be a better ladle furnace in every respect

than any yet made. "It will melt a large ladle full of zinc in fifteen minutes, or lead in six minutes."

At 3 o'clock the Association again met, when the President called on the Hon. Treasurer to give the meeting an idea of the state of their funds.

MR. J. T. BROWNE-MASON said he was very proud to have the pleasure of addressing such an important gathering of the Dental profession in the ancient and loyal City of Exeter. He deemed it a great stroke of fortune which had brought to Exeter the first meeting of the Western Counties Dental Association, and it was especially gratifying to him personally to have had the pleasure of meeting so many of his *confrères* to-day. He could not omit to say how proud and gratified the members of the Association were at the presence among them of their three brethren from London, Messrs. Tomes, Smith-Turner, and Parkinson (hear, hear), and he only hoped that when they returned home they would find that they had not entirely wasted their time (hear). Up to the present moment he had received the subscriptions of forty-four members, making a sum total of £23 2s. The only expenses so far were £7 11s. 6d., but the full balance-sheet to be laid before them shortly would, he was afraid, considerably reduce the balance now standing to their credit.

The Hon. Sec., MR. W. V. MOORE, read the following :

GENTLEMEN,—I have combined the Secretary's Report with a short paper on the Dental Association Resolutions passed at the inaugural meeting held in Plymouth April 13th, 1879, which defines the purpose and intention of the Dental Council, which is to watch and carry out the purposes of the Dental Act. We have received many letters from prominent Dental practitioners in the four western counties expressing approval and desire to unite with the Association. The Council embracing Exeter and Plymouth have suggested the bye-laws now in the hands of all the various Dentists, without exception of any designedly, in the four western counties. I have sent circulars to above 120 Dentists; should there be any omitted we shall be pleased to have their names from any gentleman present, that the Association may be made as comprehensive as possible. Forty-four have signed the declaration contained in Bye-laws 4 and 5, and there are thirty-eight gentlemen present at this the first actual business meeting of the Society, held in Exeter this day, August 4th. The Association is really to combine together for mutual fellowship and advice. The first principle of the Association, for strength of purpose and action, is union. "One and all" is the Cornish motto. One in effort

should be ours. The human body is, perhaps, the best symbol we can take. We may examine it from the skull, vertebræ, and the various branches of osteology, however magnificent in man, is but an inert frame without the physiological filling up of muscles, tendons, cartilage, blood-vessels, nerves, and skin. This, again, is but a statue until the lungs expand, the force or motor power is set in action, the heart sends throughout its multitudinous channels the life-giving impulse, and we see a well-developed form, the outcome of intelligence, and magnificent result of the living work and skill of the united whole, this the effect of union throughout its various parts, the most perfect work of creation, energy and skill. Destroy one part and there is but a feeble structure that must crumble to pieces. A threefold cord is not easily broken, but twisted and knotted it may snap asunder. The Dental body has been as much separated and disunited as could possibly be, each considering himself best supported when working out his individual interest; some, no doubt, have thought it especially clever, when the accomplished task is a sort of grasping energy to himself, regardless of those around him. Gradual development of the Dental Act has proved, beyond doubt, that the science of this department has tended largely to aid the combined experience of the whole. How much has there been a desire for increased knowledge in the means of preserving and restoring the Dental fabric, as well as that of alleviating suffering, and especially so the more easy mode of extracting teeth; and painless operations, compared with the past, instead of being subject to the remark, that the Dentist had made his fee proportioned to the increased amount of suffering inflicted during the operating process. The old tortuous key is nearly abandoned which used to be adopted for every tooth. We are told, as a matter of history, that in the ancient Temple of Apollo an instrument to draw teeth, made of lead, known by the Greek name of *Odontagógos*, from *ὀδούς*, a tooth, and *αγω*, to draw, was hung up to denote that such an operation ought not to be made, but when the tooth was loose enough to draw with so slender a force as could be applied with that. So we, in these later and more cultivated days, apply the key to conservative Dentistry, and keep it as a curiosity rather than for practical use. As a contrast, the anæsthetic now administered for the relief of a patient, and the exercise of the Dentist's operating skill, is prepared ready for our use. We may truly say the protoxide of nitrogen gas was first discovered by the illustrious chemist Sir H. Davy; it was introduced to this country more fully for Dental purposes by Dr. Evans, of Paris, who, to stimu-

late the London Dental Hospital, contributed £100 for a fair trial of it during the time he was driven to England by the Franco-German war. The gas first discovered and prepared by Sir H. Davy, in Cornwall, a little less than a century since, nearly wrought his death. Fired with the success of his experiments, Davy resolved to inhale the various gases, none of these producing any pleasurable effects, oxygen, hydrogen, and nitrogen always causing oppression, and, finally, suffocation, which compelled him to stop. Carbolic acid he found closed the windpipe against it; he, however, tried nitric oxide. Knowing the readiness of the gas to combine with oxygen, he gave his lungs a wash with the laughing gas, and then drew in nitric oxide; immediately a disagreeable astringent taste was perceived, a burning in the throat and spasm of the windpipe, so painful that compelled him to desist; on opening his lips to breathe, nitrous and nitric acids were formed, which corroded his tongue and teeth and produced severe inflammation. This was a narrow escape, though it developed for us its dangerous results. Davy afterwards inhaled the protoxide of nitrogen gas when cutting the *dens sapientiæ*, when the inflammation was most troublesome. He says, "I breathed three large doses, the pain always diminishing after four or five inspirations, but considered the pain returned more severe after the experiment." Such was the discovery, and afterwards the use, of this gas, which was exhibited as a laughing gas, the compound that so amused and thrilled the people of that day, bearing date of about 1800, and which has since made Dental surgery, once a horror, now a comparative pleasure. We may therefore join in recording honour to the memory of the illustrious Davy, the centenary of whose genius was celebrated in Penzance in the early part of this year. This, we may say, is but a part of the process of the whole working of Dental science, and we should go onward to more perfect, safe, and certain results—hypnotism, if you can work it out. The examination for the L.D.S. has energised thought, and brought many an original idea for the operating Dentist, as well as clearer knowledge of the many sections of the artistic work of our profession. It has also affiliated the various members together so cordially that in difficult cases one has consulted his brother Dentist on some points doubtful, and another has fled for support and protection in danger when a case of death has occurred in the operating room, over which we may hope the faculty will now throw a mantle of protection for the qualified L.D.S. We have, then, the adaptation for our every day's work, that which has through the whole proved to be the best, and has thus aided each in the various departments of

the Dental profession. In our daily application to the wants of the patients of our separate practice, this progressive work of adaptation gradually brings the Dentist to companionship and agreement with his neighbours, and instead of one looking on the other as a rival, greater consideration rests in the success and good practice through the skill of his brother Dentist, which stimulates him to effect the best for patients under his care. Thus are we, by a sort of evolution principle, brought to the present consideration of association, for a kind of telescopic work, to protect and advise, which really requires combined union, affiliation, adaptation, and companionship to some extent, in Dental review, the great working out of which is or should be a standard of education that shall qualify the Dentist Surgeon for his every day's professional work. The Dentists Act of the year 1878 was successfully carried, although with some difficulty in framing it, so as to do justice to all parties. We must say the Dental Committee, with Mr. Tomes at its head, worked right nobly, and have accomplished the task of endeavouring to procure compulsory education and registration. Too much praise cannot be awarded the Executive, who threw their utmost energies into the work, the results of which will be seen and esteemed by all qualified in maintaining connection with the Royal College of Surgeons for Licentiates in Dental Surgery. If this association is to be anything, it is plain that each member should take part in the work, and whilst we have a President and other officers, the Council will see it their duty to enrol members, and by every judicious means promote the advance and progressive development of the Western Counties Dental Association.

The PRESIDENT then read the following address :

The Regius Professor of Medicine of Oxford, whom it is a pleasure to feel is a native of this county, when addressing the Medical Council, of which he is chairman, relative to the claims that the members of the Dental profession had upon the public consideration, based the value and usefulness of their labours on the large amount of suffering they ameliorated and pain they alleviated.

Great as may be the importance of such a power, and one that is worthy of being cultivated to the utmost, yet I claim for the Dental profession a higher mission in its usefulness to man than that of soothing pain or relieving suffering, however acute.

There is not one amongst us here to-day that has had experience of any duration but must be able to record in the happy calendar of his duties that he has been able to add to the longevity of his patients by the carefully-adjusted labour

of the least respected portion of his art, I mean the mechanical branch.

It has remained long in my memory, like an oft-repeated echo of a cry of pain—the rough, uncouth expression of a poor old pauper man, who, visiting our Dental dispensary, exhibited his toothless gums, saying, “I cannot chew! I cannot chew! They give me meat, but I cannot chew!” The memory of that old man’s countenance, when I had to turn him away without relief, was one that haunted me much, and taught me to feel that every liberal profession should be as generous to the poor as it is possible. It taught me to feel that low professional fees were a thing not to be discouraged, that a man’s dignity and position should not be measured by the stature of his income, but rather should be judged by the excellency of his work and the soundness of his professional conduct. It taught me to think that Dental dispensaries should be encouraged in every locality, and that our leading professional men should associate and practically identify themselves with those dispensaries as much as possible.

These have been formed in many of our more important towns in a manner to show that they are much appreciated by those for whom they are mostly intended.

The Dental dispensaries have hitherto been confined to what we term, *par excellence*, Dental Surgery. Although I advocate the establishment of Dental dispensaries as a means of alleviating the results of Dental diseases among the poor, I should much desire that the dispensary and eleemosynary hospitals should have their character established on a more provident type than those that at present exist.

The pauperising element is too strong in them for the full advantage to be obtained by the labouring classes that their kind-hearted supporters desire.

Provident dispensaries, or hospitals that receive pecuniary support from persons of small means, and from those who are the most likely to require their aid, would do much to increase their usefulness, and remove that feeling of charity on the one side, and unrequited industry on the other.

By this means artificial substitutes for mastication may be brought within the reach of the poorest. And it must be borne in mind that while we have taken upon ourselves the power of confining the practice of Dentistry within the limits of the educated class, we are bound not to narrow the usefulness of our calling.

I am afraid that Dental dispensary practice has been too much confined, if we may judge by looking over the diaries

preserved, to extraction, or plugging such teeth as the nervous are too timid to consent to have removed.

Gentlemen, it should never be forgotten that our profession is the growth of the last half century; that it has sprung into repute with a rapidity that no other profession can show the like of in its history. This very circumstance is in itself evidence that the education of the general public cannot have kept equal pace—it must be partial—and the ignorant and uneducated, or those who are the visitors at our dispensaries, are amongst those who most require our advice and consideration.

We all know amongst those whom we class as our most appreciated patients how hard it is to instil that confidence which enables us to do that which we feel to be right, but which is opposed to their wishes. If this be so with those who have all their lives been in the habit of consulting their Dentist, what have we to say to others whose knowledge of Dental Surgery is limited to the exaggerated reports of suffering told by those who have undergone only the torture of extraction?

Dental Surgery, gentlemen, in my opinion, is *conservative surgery*. I have always considered and maintained that it is our duty, whatever may be the wishes of our patients, to retain and restore to the utmost perfection our art may enable us to attain any organ that is capable of being made useful, more especially when it is valuable as an instrument of mastication. This often requires judgment, skill, and knowledge, that are daily becoming more and more appreciated, and will attain to perfect confidence when the results of our practice are more uniform, and take less of the character of experiment than they frequently do. This is exhibited mostly in those teeth where inflammatory action has spread beyond the limits of the pulp cavity, and which but a few years ago were thought to be incurable, and, therefore, were generally forcibly removed. Even now there are many instances where the progress of the cure, and the continuance of the pain, must be so prolonged that it is found to be practically impossible to cure by ordinary means those teeth in which alveolar abscess has been long existent in a chronic condition. Many efforts have been and are still being made to attain a permanent cure. By some it is advocated that carbolic acid should be injected forcibly through the tooth cavity, until it invades the inflamed tissues beyond the limits of the organ. This, it appears to me, can only be practicable in but few instances, to such an extent as to bring the operation within the limits of an average success. But that which I have in my own practice done with the greatest amount of confi-

dence, and which in some cases has been marvellous in its results, is that of perforating an opening through gum and alveolar wall, quite to the abscess entombed at the apex of the root of the tooth, by means of the burring engine or Archimedean drill. The opening should be as large as practicable, and I am happy to say that it is by no means a painful operation, and is more than compensated by its generally satisfactory results.

Through this opening I insert a mixture of carbolic acid and glycerine in equal portions, repeating the operation every other day, using the mixture in gradually changing proportions, decreasing the carbolic acid, and increasing the glycerine.

I believe that the results are uniformly favorable and satisfactory. In cases where the alveolar abscess has been of long standing, and has assumed a chronic condition, it is difficult to induce patients to renew their visits sufficiently long to ensure always complete success—ease from pain being too often considered as an equivalent to a cure. To meet cases in this condition, it has recently been the practice, with varying success, of extracting the affected tooth, extirpating the saccular growth at the extremity of the root, and reinserting the tooth in its original alveolus. In performing this operation care should be taken to make a selection of cases that should exclude as much as possible the risk of failure. I do not know that I ever performed the operation for the purpose of getting rid of an alveolar abscess myself; but I have several times replanted teeth that have been removed by accident, with success. And some five years since I extracted, for the cure of an abscess, a broken front incisor, and transplanted into its alveolus a lateral incisor that was existing in an abnormal position on the palate. In three weeks the tooth was firm, and having recently the opportunity of seeing it, I find that it is as strong, well-secured, and healthy as any tooth in the head.

The models of the case, previously to the operation and since it has been completed, are now on the table, and are evidence of the desirability of a cautious progress in this direction of Dental Surgery.

A friend who has had some experience in this class of operations has informed me that in his hands too frequently the result has been the total absorption of the root of the tooth within the period of ten or twelve months. But this, I think, must have been induced by the removal of too large a portion of the periodontium from the root of the tooth, superinduced by the extent to which it had been denuded in consequence of the disease which had prompted the treat-

ment. All these are cases working experimentally for our information ; but certainly it is injudicious to replant teeth in which the periodontum is either removed, or greatly thickened, as the former admits of absorption of the tooth, the latter causes dental exostosis and absorption of the alveolus.

These operations are intended as the means of getting rid of disease that has already been a longer or shorter time in existence. But recent experience has demonstrated the capability and wisdom of prevention of alveolar abscess, more especially in those teeth which have previously come under our care for the arrest of progressive caries. Within a period of not many years it was thought absolutely necessary to remove every tooth in which the dental pulp was exposed or wounded ; and until recently, and too frequently at this period, periodontitis is the consequent result following the treatment of the pulp, either for its destruction or the reduction of local inflammation. This has generally and too much, I believe, been attributed to the material used, instead of to the *modus operandi*. Information derived from the experience of others, as well as my own observations, has compelled me to think that much of the irritation arising from the treatment of the pulp with arsenious acid and other escharotics is due more to the character of the manipulation than to the material used. Too frequently the escharotic used is but imperfectly retained by a porous and inefficient plug. The consequence is that more or less will percolate through the inefficient covering, and, coming into contact with the gum and its periodontal continuation, induce an irritable condition that is very difficult to reduce, and sometimes impossible to overcome. Temporary cappings protecting the material employed should never be carelessly done, for the success of the case is not unfrequently attributable to it. Another cause of periodontitis too frequently may be attributable to the imperfect removal of the dead pulp. In almost every case where alveolar abscess is present, the root of the tooth from which it originates retains a portion of the dental pulp in a more or less decomposed condition. It is our object to endeavour carefully to remove this body ; and there are those who inform us they are able to do so in all cases, no matter how difficult the position. I must, however, confess that I am one of those whose power is limited, and far too frequently meet with cases where the accident of the position, both in relation to the mouth as well as to the tooth itself, precludes a successful issue. In these cases it is well to introduce into the pulp cavity a substance that is capable of preventing decomposition of the devitalised tissues.

Several materials have been recommended for this purpose ; but in my own hands I prefer the application of glycerine, with or without a small addition of carbolic acid, chloroform, or tannic acid, according to any peculiarity of treatment the case may individually be supposed to require, and ultimately injecting into the cavity a resinous solution, such as Canada balsam dissolved in chloroform to saturation.

There are, however, cases which, with all our care, experience, and knowledge, baffle the best-directed endeavours.

Two such cases fell under my own observation some time since. One was the unanticipated appearance of a large abscess that came into existence a few hours after stopping a painless lateral incisor, which was afterwards found to have been caused by the bristle from a tooth-brush having been forced by the pressure of the gold plug through the arterial foramen at the extremity of the root of the tooth. This was not discovered, neither could it have been reached or removed until the tooth was extracted.

The second case was not unlike it. A gentleman suffering from severe and acute pain, so that he was compelled to write his symptoms, as he could not speak, wished to have removed a fairly good molar without delay. When with my hand I pressed out the cheek for the purpose of exploration, he became free from pain, and could speak, but the slightest topical application, no matter with what gentleness, reproduced it. From sheer inability of knowing what else to do, I yielded to his solicitation, and removed the tooth. It was then I found that a short black bristle, obtained probably from a pig's cheek he had had for that morning's breakfast, passed directly into the pulp cavity, causing whenever touched the most acute suffering. Many similar cases undoubtedly exist, but are not so readily demonstrable as to the cause, and it is the recollection of these which occur in our own hands that should teach us to be generous to the shortcomings of others.

A general practitioner of commendable distinction and reputation for success, who had but recently given evidence in a legal case where his opinion went far to crush a surgeon against whom he had been unwillingly subpoenaed, in reply to my inquiry if he had never erred in practice, that he could stand up and condemn another, however justifiably, said, "That if all my errors had been published I ought to have been transported years before." Exaggerated as undoubtedly this assertion was, I have no hesitation in accepting the idea that all have their percentage of failures, and that we should never be too ready to attribute excess of error to others, as it is impossible for us to obtain a correct statement from the

prejudiced and ignorant descriptions of those who too frequently endeavour to win our confidence at the expense of another's reputation, who, it is too readily supposed, must necessarily be an antagonist.

Gentlemen, we are now inaugurating a new society, and one of the objects that we have before us is to break down this idea in the public mind as well as our own—that others practising in the same profession as ourselves are necessarily opponents. This, I consider, is best done by encouraging between each other a personal acquaintance in professional matters. We have much to learn from one another, and combination among ourselves is professional strength. We have recently obtained an Act of Parliament that places us on a par with the other liberal professions. As this new Act comes into force for the first time this day, it will not be out of place, therefore, for me to run over the leading points of the Bill, as it affects the profession for the future.

All students have to undergo a preliminary examination in arts, prescribed by the Royal College of Surgeons, for admission to the Dentists' Register, before they begin their professional training, unless they have passed their moderations (or "little go"), or possess the degree of B.A. at one of the universities. This examination consists of English, Latin, arithmetic, algebra, geometry, geography, and English history, and any one of the following subjects at the candidate's option:—Greek, French, German, mechanics, chemistry, or botany and geology. But the examinations in these subjects, like those for the degree of surgeon, are but of an elementary character; the range being consistent only with the educational requirements of ordinary professional men. Added to this the Dental student will have to undergo five years' professional training—three years under a qualified registered Surgeon-Dentist, and two years at a registered Dental hospital in London, Edinburgh, or Dublin. Thus it will be seen, both in character and degree, that the qualifications in Dental Surgery equal those for the surgeon, differing from it only where special knowledge is required for the Dental practice. There are some who argue that there is no occasion for a separation of Dental Surgery from that of Surgery; that the qualifications of the latter include the former. No doubt but that the fundamental subjects of anatomy, physiology, chemistry, and physics are common to both courses of study; and that materia medica, oral surgery, much of pathological anatomy, and histology, including the use of the microscope, should be common to both classes also; but the clinical study and manual skill require different

training. The Dentist needs much technical knowledge that the surgeon will never require; and the general practitioner has to avail himself of experiences and information that the Dentist can never want.

If, therefore, it requires five years to perfect a student in the knowledge and technical skill necessary to qualify him to practise Dental Surgery, which is the time allowed him by the curriculum of the College of Surgeons, the student could only obtain his knowledge by adding three years of Dental practice to that required by the College for the full training for the Membership, or by taking three years out of the time required for the same degree. In the former case the licentiate's degree would be greater, as being longer and more arduous than that of the members, and in the latter it would be insufficient for the purpose. Undoubtedly it is most desirable that Dentists should be cultivated men; their profession is mostly pursued in our larger towns, and, on the whole, relies for its support upon the educated part of the community. Like the physician, the Dentist comes into confidential relation with his patients, and it is essential that he should be always equal or superior to them in general cultivation.

As far as legal status can go, the Dental profession has all that can be done for it, and it becomes us both individually and collectively to maintain this position and elevate its character. This, I believe, is best capable of being done by carrying out our experience in the most liberal and professional manner, both towards each other and towards those whose confidence we obtain; by using our knowledge and skill as a profession, and not as a trade; by making our patients' necessities our first consideration in whatever case we undertake, even before that which is due to ourselves; in fact, by making the highest code of honour the standard of our professional ethics. Not only would I advocate this, but would encourage the utmost liberality in professional intercourse with each other, and generous treatment relative to the services that may be requested at our hands, both by those of our own and associated branches of professional brethren. This I would advocate, not only in reference to fees, but also in relation to personal conduct. Kindness and sympathy cannot be bought, but are appreciated by all, and belong alike to rich and poor; and I know no surer way of winning professional success than by rendering operations that are of necessity more or less painful as little distressing to those who consult us as possible; and if this was more universally considered amongst us, much of the horror and fear that are more frequently than not the

result of imaginary troubles would be considerably reduced, although it is too much to expect that it will wholly pass away until we can obtain some topical applicant that will persistently obliterate pain without destroying a conscious knowledge of facts; and I do not think that the combined intelligence of the profession can be better utilised than in directing their inquiries to obtain this result.

The anæsthetics at present in use are none of them without danger, and the topical applications most in request are, in my experience, worse than useless.

Nitrous oxide, now most commonly in use, can scarcely be called an anæsthetic, and in my opinion is far too indiscriminately administered by practitioners who have no qualification beyond that which they have given themselves. It has, however, one advantage over true anæsthetics; that is, it exhibits the condition of the patient so immediately on becoming unconscious that the most inexperienced know when to discontinue its administration, and it is to this that we have to attribute so few recorded fatal cases. But if its unrecorded history be true, there is no agent administered in which there are so great a number of suppressed cases approximately fatal. In some of our hospitals it is first given sufficiently to enable the administration of sulphuric ether vapour without the patient being conscious of its primary distressing effects.

In my own more immediate locality bichloride of methylene appears to have obtained the greatest confidence, and when administered under the guidance of experienced practitioners has not to record a single case, as far as I am aware, of approximate danger when given in Dental practice.

Still it has, in common with all anæsthetics, its disadvantages, and one of these is the accumulation of blood in the mouth, and the submergence of the teeth, so that previously to the completion of an extended operation the Dentist has only to depend upon his previous knowledge and the correctness of his touch.

Under such circumstances I would suggest introducing into the mouth a solution of bichlorate of potash to preclude coagulation of the blood, and then removal of the excess of fluid from the mouth by the aid of an exhausted syringe.

That much may yet be done to render surgical operations painless with less danger than at present there can be no doubt, and I would hope that as the administration of anæsthetics was first discovered and introduced into practice by a Dentist, its value and importance will ever be kept in view as especially associated with our professional requirements, and therefore one worthy of experimental research.

I am much induced to believe that those who practise Dentistry as a body are too much inclined to follow in the beaten track laid down by others; that it is accepted too much as a trade, and not enough as a scientific profession. It is a true axiom that what we consider of ourselves others will take us to be; and I am one of those who believe that there are few specialities of surgical knowledge which offer a larger scope for scientific investigation than that of the study of the teeth, and those branches of knowledge associated within the requirements of Dental surgery.

The progress of our knowledge of the structure of the teeth has been great since Leuwenhoeck first put a section under the microscope; but there are points not yet determined which are worthy of research, and will give permanent reputation to the successful explorer. The true and active agent in the destruction of the teeth is yet undetermined, or we should not be subject to the recommendation of one of the newest and apparently most beautiful of intended permanent plugs, that it will resist strong mineral acids, and yet when we place it in the mouth find that it dissolves before the action of saliva as a lump of sugar. I would suggest to those who are desirous of experimenting on materials to be utilised in the mouth, to make use of those that will resist the slow and long-continued action of carbonic acid; for it has been demonstrated by the chemists of this and other countries that carbonic acid, though weak in solution, has, when long sustained, the power of decomposing substances more completely, especially when in a nascent condition, than the most powerful mineral acids, even though the latter be excited to the boiling point.

It is many years ago since I endeavoured to impress upon the profession that carbonic acid in a newly-formed or nascent condition is the active agent inducing Dental caries.

Those materials that we wish to retain in the mouth should therefore be able to resist the power of carbonic acid in its most active condition, as being constant in its presence and permanent in its action, rather than those agents which, however strong, can be present only under the most abnormal condition of probabilities.

These inquiries lead us to consider the nature of what a limited portion of the American school has thought proper to denominate as "the New Departure."

With every desire to record the various obligations for which the profession as a whole are indebted to their American brethren—and amongst these may be classified that healthy national rivalry which has induced the English Dentist not to be behind them either in professional education or profes-

sional status, and which in this country has recently culminated in the Dental Licentiate's Diploma of the Royal College of Surgeons and the Dental Registration Act; with, as I say, every desire to acknowledge the skill and ability of the American Dentists, it is to be regretted that the progress they have made should have been so spasmodic and sensational.

It is not so very long, counting by years, that it was inculcated in the United States that any practitioner employing any material except gold as a permanent plug in the restoration of a decayed tooth was unworthy of professional status or professional recognition, and now the school of "the New Departure" lays it down with equal precision and force of opinion that gold is the worst of all materials in use; but I do not know that they have come to the determination of what is the best.

Gentlemen, let us retrace our steps a little. We can point to gold plugs of forty years' existence. We have seen cement stoppings nearly as old, when the cement consisted only of silver filings and mercury. We have seen how the stopping lasted made by old Cartwright; by Sheffield, of this city; by Heath, of Plymouth, and many others of reputation, who have passed away. Since that time the improvements in the preparation of the gold have been much advanced, and the metallic cements have been wonderfully ameliorated. Is it to be supposed, then, that skill has departed with the giants of old; that with better material at command the results of our labours have deteriorated? Gentlemen, we know that this is not the case. The work of those men, great as they were when compared to those around them, is scarcely equal to the average manipulation of the present day. And the restorative operations now performed, when executed without regard to time, far surpass the attainments of those who in their day were counted great.

Are we, then, on this account to be content? Assuredly not. Progress must be our motto; and the rate at which Dental knowledge has advanced in the last few years is the best guarantee for continued efforts at improvement.

Still we must be cautious in accepting new materials into our practice, even when they are stated to "leave nothing to be desired." I know of nothing so humiliating to one desirous of obtaining the confidence of his patients as the employment of a material promising success, and leaving failure. And I certainly protest against our operating rooms being used as a laboratory for such experimental research.

One of the objects for which we should combine is to elicit knowledge and encourage research; and one of the best

means for this must be that of forming committees that will examine into the conditions of things and report upon the same at our regular meetings. Thus we protect each other, and preclude that disappointment which follows surely on too great expectations. Improvement in the character of a permanent plug is a desideratum eagerly sought for on all sides, and consequently many are as ready to supply it. But none of the new stoppings have any pretext, in my opinion, to be accepted for what they pretend to be. The chalky-white patch is but a slight, if any, improvement on the old black cement, and its power of resisting the destructive influences of the mouth is far inferior.

General public condemnation has rightly fallen on all dark cements for permanent fillings, and we have little on which we can rely to take their place. Some of our best workers encourage the use of gold plugs, and perform the operation wonderfully well in very large and awkward cavities. But there is, I consider, a limit to the character of work when time, skill, labour, and material combine to make an operation unnecessarily expensive. And I am not sure that it can be considered as good Dental surgery the long and patient mechanical manipulations necessary to complete a large gold plug.

Do not imagine that I underrate either the skill of the operator or the value of gold plugs; but I very much doubt whether it is sound advice or good Dental surgery to expend an enormous amount of time and valuable material in the preservation of an organ, however useful, if it may be done as permanently, both in relation to utility and appearance, without them.

There is an old stopping much overlooked, and in my opinion scarcely appreciated sufficiently,—I mean Jacob's preparation of gutta percha. We have many other forms, but they are useless and miserable substitutes. I do not hesitate to say that gutta percha arrests Dental caries with more persistency than any other known material. Decay does not go on when gutta percha is inserted into a well-prepared cavity. I have seen it after it has been retained in position for eleven and twelve years, and the dentine beneath it is always healthy and sound; moreover it associates with the feeling of the tooth, and resists the rapid conduction of temperature. Unfortunately, it particularly, when in the mouth, yields under continued pressure, frequently bulges out, and looks unsightly; independent of this its value for assisting mastication must be very small. To overcome this, a capping of gold plate made be made, and when well and skilfully executed, will compare with the best gold plugs,

both for elegance of appearance and, I believe, durability of work.*

And until some translucent material may be discovered that is capable of fulfilling all the conditions requisite for a perfect stopping, I think that Jacob's gutta percha, capped with pure gold plate, will be found, in weak or extensively decayed teeth, the best substitute at our command.

It may be laid down as a fact, not to be disputed, that Dental caries can be better arrested by good work with poor material, than by the best of material with unskilful labour.

But Dental Surgery is not only conservative in its character, it is restorative in its power.

The teeth, which Nature takes fourteen years to complete, have, during the progress of civilisation, become so depreciated in character that they are frequently incapable of fulfilling the object for which they were originally designed.

As a matter of natural history, the life of every animal is measured by the durability of its teeth. The dog will live its twelve or fourteen years, and when its teeth are gone it dies; a horse will live some twenty-two or three; man his seventy; while the elephant will live a century and more in perfect health and power. If the physician has the divine power of curing disease and restoring health, the Dentist may claim that of preserving health and adding to longevity.

To enable us to obtain this power we have to depend upon various materials, and combine them to supply, not only loss of teeth, but that of a waste of bones and other tissues.

Mechanical Dentistry is too closely allied and too valuable an adjunct to Dental surgery to be separated from it. To say where Dental surgery ends and mechanical Dentistry begins is difficult. All surgery is manual skill; it is the brain behind the hand that elevates the character of the work. And that branch of our profession that restores beauty to the countenance; that restores the elegance of speech; that restores the power of mastication, and adds to man's length of days, must not be depreciated.

And it never would, had it not unfortunately been the side path by which so many have assumed to be Dental surgeons. But a change has come over the shadow of our lives. Compulsory registration will preclude this degradation for the future; and under these conditions it is wise to look not too closely for the mote in our neighbour's eye, lest we be reminded of the early history of many who have

* If the manufacturers would supply us with sections of mineral teeth, the restoration of the natural tooth might be approximated with more elegance than has yet been obtainable.

climbed to the highest pinnacle of good repute and professional honour with a beam in theirs.

The past is gone. From this 4th of August, 1879, I hope that every man practising as a registered Dentist, who will sign our bye-laws, and honorably adhere to that which he signs, will be welcomed into this Association without reference to old failings. But we must have no compromising with those who do not keep our bye-laws for the future, or practise without reference to the code of professional honour.

Mr. F. H. BALKWILL, of Plymouth, read a paper on the "Possibility of Making Porcelain Gum Blocks in the Ordinary Dental Workroom of General Practice."*

There was no discussion on this paper, but after the sitting several members congratulated Mr. Balkwill on the measure of success he had obtained in his experiments, and inspected his apparatus with much interest.

Mr. J. H. GARTRELL (Penzance) read a paper on the "Working of Celluloid."

The PRESIDENT said they were greatly indebted to Mr. Gartrell for his excellent paper on a process which was likely to work a revolution in Dentistry. There could be no doubt that celluloid was much liked by patients at first, but whether it would be as permanent and lasting as vulcanite had yet to be determined. He had used it for eighteen months, and had no fault to find with it, except the deterioration of colour, the celluloid becoming paler the longer it remained in the mouth.

Mr. GARTRELL said this effect was always produced whenever the plaster of Paris in the mould was in actual contact with the plate.

The PRESIDENT (referring to models and celluloid plate which he held in his hand) said, in the illustrations before him both sides were protected by the metal, but the rim or labial surface was moulded by the plaster, and he did not understand why the celluloid should not be whitened in Mr. Gartrell's case as well as his own.

Mr. GARTRELL replied that the celluloid did become whitened, but that the surface was filed away and polished in a new plate, and in repairs the lingual and labial surfaces were coated with tin-foil by pressing it on a plate with the fingers, the surfaces having previously been made slightly adhesive with pyroxylin solution, or spirits of camphor applied with a brush, the thinnest coating of metal being sufficient to protect the plate from the bleaching effect of the plaster.

After some observations from Mr. SMITH-TURNER,

* This and all the other papers will be published *in extenso* in our next issue on October 1st.

Mr. MOORE stated his experience in the working of celluloid. He had also found that the colour depreciated by contact with the metal. In working the celluloid at high pressure he sometimes found little pits in it; that seemed to him to be the effect of the strong heat on the metal.

Mr. R. P. MORRISON, of Barnstaple, said he had tried Mr. Gartrell's system for working celluloid more than a year, and he wished to bear testimony to its excellence. Although he had used celluloid for some years he never could boast of much success until he employed Mr. Gartrell's method, and even now he had found great difficulty in fixing bands and wires to the plates. He trusted, however, from the knowledge gained to-day, for which he desired to thank Mr. Gartrell (hear, hear), he should be able to overcome all difficulties in the future. (Hear, hear.)

The PRESIDENT, in closing the discussion, called attention to a specimen done by his assistant, the material used being a combination of gold with celluloid.

The HON. SEC. then read a paper by Mr. Fletcher, of Warrington, on "A Means of obtaining Adhesion in Flat Smooth Plates."

The PRESIDENT observed that it would certainly be one of the most interesting things if they could obtain adhesion in small plates, as this would remove the only drawback against recommending artificial teeth. He remembered some years ago that Mr. Ash, of Marlborough Street, gave notice that he had a new plan by which plates could be made to stay with the greatest amount of certainty. He (the speaker) sent up a piece, and when it came down he found that the new plan was simply linen stuck under the vulcanite. The great secret was careful and good fitting. (Hear, hear.) Advantages might be gained by little notions which they heard of from various sources, but many of the so-called improvements were no improvements at all. For years past he had adopted the plan of cutting a groove along the extremity of the plate between the hard and the soft palate, and not a single plate had failed to stay.

Mr. MORRISON said Mr. Fletcher's idea could hardly be called original, for twenty years ago he had seen metal plates struck up, with glasscloth placed between the zinc model and the plate, thus producing the same effect as the specimen just shown.

One or two members spoke of the efficacy of the groove.

Mr. J. J. R. BATE, of Tiverton, read a paper on "A Fracture of both Jaws and its Treatment."

Mr. G. H. MARRIOTT, of Plymouth, contributed a paper "On a Case of Secondary Dentine," discovered after extract-

ing the lower right wisdom tooth of a patient under his care.

Mr. J. T. BROWNE-MASON proposed a cordial vote of thanks to the exhibitors for their kindness in sending such a valuable collection to grace the first meeting of the Western Counties Dental Association.

Mr. J. BATE seconded the motion.

The PRESIDENT said they were undoubtedly much indebted to those who had added so greatly to the interest of the meeting. Messrs. Ash, when spoken to on the subject, said they would be willing to send at all times ; it might, therefore, go forth to their friends in the north and elsewhere, that if they liked to form societies of the kind, it would not be the fault of Messrs. Ash and the other exhibitors if they did not have an interesting and successful opening meeting.

The collection of appliances now exhibited showed how fast the Dentists were going ahead, and those who assisted them in making such rapid progress deserved the best thanks. (Applause.)

The motion was carried with applause, and this terminated the sitting.

The ASSOCIATION DINNER was held at the Rougemont Hotel, a large and handsomely fitted establishment, which has been opened during the present year. It stands on the site of the old city gaol, opposite the Queen Street Station of the London and South Western Railway and the beautiful slopes of Northernhay, on an elevation, to the right of which are the picturesque remains of Rougemont Castle, whence the hotel takes its name. The chair was taken by the President, Mr. Spence Bate, and the vice-chair by Mr. G. Parkinson, of Bath, the President elect. In addition to the members whose name are given above, there were present, by special invitation, the Mayor of Exeter (W H. Ellis, Esq.) and the Sheriff (S. Ward, Esq.) both of whom wore their chains of office, and the Rev. J. T. Toye the mayor's Chaplain, who said grace on a model peculiar to "ye ancient and loyal city." The dinner was served in a manner most creditable to the establishment.

The PRESIDENT in giving the "Health of the Queen" said the toast always met with a loyal reception, but he anticipated for it to-night a more than usually loyal greeting, for Her Majesty had shown her character recently as a minstering angel in distress to a widowed mother bereft of her only son, in a way that must have endeared her more than ever to her people. (Hear hear). He remembered hearing Morley Punshon in a lecture describe the mother of John Wesley as

being an angel, nay, more than an angel—a noble woman. Let them drink the health of Her Majesty as being that of something more than an angel—a noble woman. (Applause).

The PRESIDENT next gave the "Health of H.R.H. the Prince of Wales and the rest of the Royal Family." He wished they could see the Prince of Wales among them oftener. Some years ago he passed through a period of great trouble; since that time he had grown a greater and a better man, and he was giving evidence that when at length he came to the throne he would be as dear to the nation as his mother had been before him. (Cheers.)

The PRESIDENT gave the "Clergy of all Denominations." He did not know how many denominations were represented at the table, but to whichever denomination they belonged there were times when they all looked to the ministers of religion for comfort. But while they were much indebted to the clergy, the clergy were occasionally indebted to them. A short time since a clergyman came into his operating room one Sunday morning and said, "You must help me! you must help me! for I can't say 'salvation.'" (Cheers.) He did help that gentleman in his hour of need, and his congregation had the satisfaction of hearing him say "salvation" in a proper manner. (Cheers.)

The MAYOR'S CHAPLAIN returned his sincere thanks for the honour conferred upon him and all other members of the clerical profession by the invitation to be present on this occasion, and by the way in which the toast had been received. He hoped the members of the Dental profession would, by God's blessing, be the means of contributing, he would not say to the "salvation" (cheers), but to the physical ease and comfort of their fellow-creatures whenever they wanted their assistance. He knew no class of men more universally necessary and beneficial than those he had the honour of addressing on the present occasion. All did not want their limbs amputated; all did not require the physicians; but all required that the means whereby they nourished themselves should be looked after and attended to. He hoped they would continue to contribute to health and prolong the life of as many persons as possible. (Applause.)

The PRESIDENT gave the "Army, Navy, and Volunteers." Any one could see that the person who drew up the toast list had something to do with the army, for he had put the branch of the service first. Now he (the President) had always been accustomed to look at the navy as the royal service. England was great because she had a great navy; her army was small because she did not want a bigger one. Other nations required large armies in order to keep open

the line of communication from their own territory to that upon which their forces were operating; but England had only to send the number of men required, whether in Africa or in Afghanistan, and her ships were her communicators. He might almost claim to be a naval man, as so many of his ancestors had been in the navy; then he had a son in the army, and a subscriber to the Volunteers, so that he might claim connection with all three services. (Cheers.) He was always glad to see in his operating room any member of either, so that his affection for all three was equal. (Cheers.) He called upon Mr. Gain, as an old militiaman, to respond for the regular forces, and upon Sergt. Gratwicke, 1st R.V. (winner of the St. George's Challenge Vase, 1878), to respond for the Volunteers.

Mr. GAIN said the task of responding for the army was a pleasant one. He could say nothing for the navy, for he knew little about it. He probably knew as little about the army, as he had only held the position of surgeon in a militia regiment. That office, although not quite a sinecure, was next to it. (Cheers.) Still it was a useful one. He considered the militia, as a body, to be a very useful feeder of the army, and he hoped the day was far distant when it would be done away with. (Hear, hear.) It ought in his opinion to be made a much more systematic feeder of the army than it was at present, and if surgeons and assistant-surgeons of the militia were to take greater pains in passing recruits into that force, they would be a far better body of men to be transferred to the army. Many men were now passed into the militia who were not by any means fit for the army. That ought not to be. (Hear, hear.) He hoped these things would be examined into carefully, and that in future we should not have to complain of an effete body of men like those sent out to Zululand.

Sergeant GRATWICKE (who was attending the meeting in his capacity as a representative of the Press) said he was taken by surprise, because he had imagined that some member of the Dental profession in the West of England who belonged to the Volunteers would have been present to acknowledge the compliment. The Volunteers made no great profession, but if necessity should arise they would simply try to do their duty; and he believed they would not be altogether unworthy of those who had gone before them. The day had long passed since it was customary to laugh at and ridicule the Volunteer force. If there were any present who had any doubt as to the reality of the work the Volunteers had to perform, their doubts would be set at rest by a visit to the Artillery encampment at Sladdon Heights a few

weeks ago, or, still more recently, to the Rifle Volunteer's camp at Exmouth, where the men had to pitch their tents and pass the night under canvas during one of the most violent thunderstorms which had occurred in England during living memory. (Applause.)

The PRESIDENT next gave the "Health of the Mayor of Exeter." No better evidence of a man's merit and worth could be afforded than the fact of his selection by his fellow-townsmen for the post of chief magistrate. To-night they had among them in that capacity a gentleman whose family he had long known, and whom he knew personally as a most kind-hearted and generous man. He might add that he had received many proofs of sympathy from the mayor's late brother, Mr. H. S. Ellis, whom he had the privilege of knowing even better than he knew his worship himself. He asked them to drink the health of the Mayor of Exeter with the enthusiasm it deserved. (Applause.)

The MAYOR, in responding, thanked the Association very cordially for the honour they had to-day conferred on the city by holding their first meeting within it, and he expressed the great pleasure it afforded him to meet them this evening. These associations were of the highest importance, not only in the profession in which they originated, but also to the public at large, who thereby acquired a knowledge of the many inventions and discoveries which, particularly in the Dental profession, had been made for the benefit of suffering humanity. Exeter, he was very glad to say, had always stood very high as to its professional men, lawyers, doctors, and divines, and he was happy to say also, that the Dental branch of the medical profession had not been any exception. Amongst the names of eminent medical men in Exeter, he might mention those of Benchall, De la Garde, and Barnes, and amongst Dentists those of Sheffield and the late Mr. Fox. (Hear, hear). He had on former occasions had the pleasure of meeting their President, and he held them to be most fortunate in having in the chair, at their first meeting, a gentleman who took so deep an interest in all scientific movements in the West of England. (Applause.)

The VICE-PRESIDENT proposed the "Health of the Sheriff."

Mr. WARD, in replying, said when he entered the room and cast his eye over the toast-list he was surprised to see the sheriff honored in a separate toast, because in the presence of the greater luminary, the mayor, the sheriff was generally forgotten, or tacked on to the tail of the other toast. He thanked them very much for the unusual compliment. When he received their invitation he must confess that he hesitated one moment as to accepting it, because his

mind went back to a few unpleasant hours he had spent in a Dentist's room (laughter), and of course he did not know what might be the nature of the evening's proceedings. (Laughter.) But he thought on reflection that in all probability the business of the day would be done before he put in an appearance, and that the lay members of the company would not be operated upon. (Laughter.) He was thankful that they had not been operated upon, but that, on the contrary, they had been given something to operate upon, very much to their advantage. A sheriff had many duties, some of them exceedingly pleasant, others very unpleasant. He could only say that if the Western Counties Dental Association held its meeting every year in Exeter, he should anticipate a great influx of gentlemen ready to take the position he had the honour to hold. (Laughter.)

Mr. TOMES, F.R.S., was called upon to propose the next toast, "Success to the Western Counties Dental Association." He said,—The toast which has been entrusted to my keeping is one that should have been put in the hands of some one with more power of giving full expression to the feelings which I possess but have not the ability to give proper utterance to. The task before me would have been rendered more easy but that your distinguished President, in his address this afternoon, has really taken away the most agreeable part of that which can be said in respect of the duties of the Western Counties Dental Association. He has reminded you of various duties, the duties of good-fellowship and communicating freely to each other all the information we possess for our own individual advantage no doubt, but more especially for the good of the public. (Hear, hear.) He has told you of the advantages which the Dental Act, passed last session, will secure to those who succeed us in creating confidence in us as a profession. Hitherto, a Dentist might be any manner of man who chose to write "Dentist" on his door. In future he will be a man of education, and, therefore, of good social position. (Applause.) He has reminded you that this Association has been established for the purpose of carrying the Act into effect; but he has not fully reminded you that there are other duties connected with the Association than those of good-fellowship and the communication of information. There is another obvious duty in relation to that Act, and it is this, that you shall see in future that no one assumes the title of "Dentist" who has not a distinct right to that title, who has not been in *bona fide* practice before the Act of 1878, or who has not since the passing of the Act acquired registration as a licentiate. (Hear, hear.) Now, the scheme of the Act from first to last has

been extremely liberal. The scheme has been to take upon the Register every person who is in the *bonâ fide* practice of Dental surgery, and in the practice of Dental surgery in the most liberal acceptation of the term. But the Act, on the other hand, says, that no person shall have his name entered on that Register who has not been in *bonâ fide* practice, that the term shall not be interpreted in any mere technical sense, that persons shall not enter their name simply as a matter of convenience in order that they may take up the subject at some future time on a mere colourable ground, based on some trivial act forming a small and unimportant part of a Dental surgeon's practice. (Hear, hear.) It will be seen that under this Act every person is placed upon his own responsibility as regards his claim. He makes a written declaration, in the presence of a witness, that he was in *bonâ fide* practice, and that he claimed to be upon the Register, and the Registrar thereupon enters him as a Dentist. Consequently it is a duty you owe to society and to yourselves that if you find, on that Register being published—as it will be in a few days—names which you believe have no right whatever to be entered there, it is your duty to give information to some central authority that can take cognisance of and investigate the case; and if it should prove that persons' names are there wrongfully—either placed there in ignorance of the Act, or from fraud—the Medical Council should be informed so that their names may be erased. (Applause.) That, you may say, is rather a harsh procedure; but this Association has been formed for the purpose of carrying the Act into effect. Another association has been formed on a wider basis still—the British Dental Association—and one great purpose of that Association will be to see that the spirit of the Act is carried out. Each association, as I understand it, will undertake to investigate individual cases of alleged abuses of the Act if those cases are brought before them; and I take it to be the duty of every *bonâ fide* member of the profession to bring all such cases as may come to his knowledge before one association or the other. (Hear, hear.) This gentlemen, is not an agreeable aspect of the subject, but the President has left me the ground, and, inasmuch as he has done so, I, as one who has interested himself in the Dental Act as much as any other person, feel bound to draw your attention to that which I look upon as an obvious and an imperative duty. (Hear, hear.) We cannot respect ourselves so long as we have in our ranks people who really have no legal right there. (Hear, hear.) I cannot say there are such persons, because I have not seen the Register: when it is published, it may be that there are no such

persons ; but at all events I take it to be the duty of every respectable practitioner to see that his profession is cleared, if possible, of those who have no right to appear in its ranks. (Applause.) At the same time I would impress upon every member of the profession that I come in contact with, that he should read the Dental Act in the most liberal spirit, and that no person whatever should be excluded from the Register who has really any just right to appear there. (Hear, hear.) I have to couple with the toast the name of your President. (Cheers.) Mr. Spence Bate is an old friend of mine, for whom I have the deepest possible respect. I could say a great deal more of him in his absence than in his presence, but I may say that he is one of the most distinguished members of our profession, and one who has done it great credit from every point of view. (Cheers.) He has shown also that he can be very eminent, not only as a Dentist, but as a scientific man—that he can greatly advance one of the most useful branches of surgery, conjointly with the advancement of science generally. I have great pleasure in proposing health and prosperity to the Western Counties Dental Association, coupling with it the name of your distinguished President, Mr. Spence Bate. (Cheers.)

MR. SPENCE BATE, who was enthusiastically received, made a characteristic reply. He said: In the year 1840 my old friend Mr. Tomes commenced practice in London—the same year that I, a poor individual unknown to anybody, began to work at Swansea. I think that he was the first man almost that I knew—I would say the first Dentist I ever saw—(cheers), because Mr. Clendon called on me before then in Swansea. (Cheers.) But I soon learned to appreciate between glitter and gold, and from that day to this it has always been my ambition to hold my distinguished friend as my dearest professional friend. (Cheers.) I never thought my work in London, or a visit to London, properly carried out unless I had dined with him. (Cheers.) I thought it a duty to dine with him, and I never missed to spend a day until he retired into the country out of my reach. (Cheers.) I have not seen him for years until now. You cannot fancy what a pleasure it is to me that he should come all the way from London to greet our Association, and that he should propose my health. Gentlemen, I feel it more perhaps than I care to show you. (Cheers.) A few words as to the way in which we formed this Association. I was in London the other day, summoned by my friend Mr. Smith-Turner to come up specially because there were a lot of fellows coming in, as they thought, to swamp us. I went to London, but found I was not wanted, as so many had

responded to my friend's summons. The fact was each man desired to do his duty—it was that which won Trafalgar—and we won. (Cheers.) While in London I met all my old friends. There was Mr. Tomes, Mr. Smith-Turner, Mr. Saunders, Mr. Parkinson, &c., those whom I used to meet in the days when we founded the Odontological Society. I was then introduced for the first time to Mr. Browne-Mason, of Exeter. Well, it struck me that although my visit to London brought me into contact with the leading men of my own profession, yet it did not give me the opportunity of knowing those who were my neighbours. (Hear, hear.) And there must be many Dentists in the West of England who have never met, and do not know one another. There are many gentlemen here to-night whom I have never before seen. Then occurred to me the brilliant idea of writing to Mr. Browne-Mason to know if such a thing as a Dental Association for the Western Counties were possible. From that day I had nothing to do. To him and Mr. Moore is all the merit due for carrying out the details of this Society. (Cheers.) It was no doubt a brilliant idea—(cheers)—but they had worked it out to a practical fact. (Hear, hear.) Let us meet at Bath next year under the auspices of the President-elect, Mr. Parkinson, whose name is so well known, not only throughout the West, but all over England, as a tower among Dentists. Let us meet there, at a spot approaching the centre of England; and we shall be an established fact. Gentlemen, I thank you. (Applause.)

Dr. W. A. HUNT, of Yeovil, proposed “The Visitors to the Western Counties Dental Association.” He reminded the company that this was the first time that a country Dental association had ever met in Great Britain. To Exeter was due the credit of its formation, and it was only fitting, therefore, that they should have the mayor and sheriff as visitors. We must also connect with the toast the names of Mr. Tomes, Mr. Smith-Turner, and Mr. Parkinson, of London. Although they were indebted to Mr. Browne-Mason for having so successfully carried out the meeting of to-day, yet they must remember that the idea of a Dental Association sprung up first of all in London. Messrs. Tomes, Smith-Turner, and Parkinson were well known to all as the promoters and directors of the movement from which resulted what they had seen to-day. (Hear, hear.) He was in the habit of going often to the London meetings, as many others did, but he confessed that he had seen and learned in Exeter to-day more than he should at three or four of the metropolitan meetings. (Hear, hear, and cheers.) He believed that many men who were willing to bring forward interesting

and instructive papers had held back from a fear that there would be so much business of another kind that there would be hardly time for the discussion of papers. Still they had had the pleasure of listening to several very useful papers, and, for himself, he had learned very much by coming to Exeter. He hoped that at the Bath meeting the gentlemen whose healths he now proposed would again favour them with a visit. (Cheers.)

Mr. JAMES PARKINSON, who first responded, said it had given the visitors great pleasure to come to Exeter for the purpose of witnessing the inauguration of the Western Counties Dental Association. As one of those who were instrumental in forming the parent association—he hoped the members of the Western Counties Dental Association would not forget that they had a parent (hear, hear, and cheers)—he felt very much interested in the parent Society, having the honour of being its Treasurer, and he hoped it would not fail to receive a proper recognition at their hands, because he considered that the usefulness of the Western Counties Dental Association would consist, in a great measure, in its being an adjunct of the London Society, for it was chiefly to the members in the provinces that they would look for that information which Mr. Tomes had referred to with regard to those who were improperly on the register, or who committed other offences against the profession. (Hear, hear.) He thought, also, it would be by the parent Society that such action would be taken as would be necessary to get rid of these persons. (Hear, hear.) This was the first time he had visited Exeter, but remembering the kindness and hospitality he had received he trusted it would not be the last. (Hear, hear.)

Mr. SMITH-TURNER, who also responded humorously, complained that he had not received sufficient notice that a speech was expected from him; he had known it long enough to spoil his appetite (laughter), but not long enough to prepare a speech. Another cause of complaint was that the visitors had already spoken for themselves, and he had only himself to speak for. He had little to say about himself. He had been so much taken up with the work of the profession of various kinds that he had not had time to think of himself. The visitors might be divided into two classes, those representing the City of Exeter and those representing the Dental profession in other parts of the country. The former had spoken for themselves. With regard to his professional brethren and himself, he hoped the name of “visitors” would be utterly annihilated in reference to meetings of Dentists on such occasions as this. He hoped

that in future they would all be members of one association, and claiming universal brotherhood. To show the sincerity of his desire in this matter, he had brought with him some recruiting papers (cheers), which he hoped as many as possible would fill up for the purpose of becoming members of the Central Association. Depend upon it that, however advantageous meetings in certain parts of the country might be, the real work—the nasty work, he might say—in promoting the prosperity of the profession by the enforcement of the Dental Act would devolve on the members of the British Dental Association, and especially upon the office-bearers residing in London. He hoped, therefore, they would be enthusiastic enough to come forward and sign the declaration paper as readily as they had signed their own, which was almost the very same. Some people thought these declarations were too rigid, others that they were too loose. He would not, in the presence of gentlemen who did not take an immediate interest in the affair, go into this matter minutely. They knew, of course, that many people had cause of complaint. He remembered once hearing a gentleman giving an address as President of the Odontological Society, a gentleman well known in Exeter, who had long passed from amongst them, but whose loss was even now felt by the profession. He referred to the late Mr. Sercombe, who, he believed, was a native of Exeter (yes!); at any rate, he received his Dental education in Exeter. Mr. Sercombe, whose zeal they would all remember, said he looked forward to the time when “none would be for party, but all would be for the State.” (Cheers.) Since he had passed away troublesome times had passed over them. Many had been “for parties,” but, he was happy to say also, that many were “for the State;” many there were who took a broad and equitable view of questions. He begged them to continue this spirit, and to interpret the provisions of the Dental Act with the utmost lenience and generosity. (Hear, hear.) If any had cause to complain of the restrictions imposed not being stringent enough, he begged them to try and modify their opinions for the good of the community; and to those who thought they were too rigid, he would address the same plea. They all had cause for complaint, no doubt. No new law was ever passed that did not press hardly on some members of the community, more especially when a law was made to regulate such a profession as that of the surgeon-Dentists of England; it must be expected that some would at least have to suffer and to have their opinions outraged in some respect. (Hear, hear.) What had been done, however, had been done with the utmost consideration and

with a desire to conciliate and protect the interests of all. (Hear, hear.) Concluding, Mr. Smith-Turner said he hoped before long to have a large addition to the members of the British Dental Association.

Mr. F. H. BALKWILL (Plymouth) proposed the "Health of the Exhibitors." It had often struck him, he said, that they were more indebted to the gentlemen who provided them with the implements and materials they used in practice than they were willing to admit. The makers sent in their accounts and they settled them, and with the payment of the bill they sometimes thought they had settled all their obligations to those gentlemen. Some writers told them that civilisation advanced very much in proportion to the implements and materials available for the use of man. Thus, there was first a bone age, next a stone age, then a bronze age, and then an iron age. He thought those who catered for the Dentists could carry back their memories to the period of the bone age. (Laughter.) After that came the gold age, then the vulcanite age, and now they were threatened with the celluloid age. (Cheers.) Each of these different ages had enabled them to reclaim some part of the continent of unknown difficulties. The display made by the manufacturers that day was of so complete and interesting a character in every respect as to leave little to be desired. (Hear, hear.)

Mr. W. V. MOORE (Plymouth) replied for the exhibitors, who, he remarked, had declined to exhibit themselves. Some of the appliances they had seen to-day were such as to inspire them with new ideas. There was that wonderful chair of Messrs Ash & Co.'s, with which one might elevate his patients to any extent—raise them almost to angelic influence and send them back with ease and comfort to themselves. (Laughter.) In reference to other instruments with which they were generally acquainted, he could only say that they seemed to be brought to as high a point of perfection as was possible, and it was a source of great pleasure to see the various Dental houses making such efforts to develop and advance the science in all its provinces. (Hear, hear.)

Mr. S. BEVAN FOX gave "The Press," which was duly acknowledged.

Mr. H. MALLETT (Exeter) then gave the health of "The man at the wheel," Mr. Browne-Mason, who stood high in his profession and studied under one who reached the highest pinnacle, the late Mr. Sheffield. (Hear hear.) Mr. Browne-Mason had taken no end of trouble in the establishment of the Western Counties Association; in fact, he had been the mainspring of the movement. (Hear hear.) He had also laid open his house

and table in the most hospitable manner, and they would be lacking in their duty towards him if they separated without drinking his health, and also, if he might venture to mention her name in an assembly of gentlemen, that of Mrs. Browne-Mason. (Cheers.) He had much pleasure in proposing the health of Mr. and Mrs. Browne-Mason. The toast having been drunk with musical honours,

Mr. BROWNE-MASON said he was very grateful for the enthusiastic and generous thanks given his "little wife" and himself. He had been spoken of as the mainspring of the movement, but he had a great worker in his colleague Mr. Moore, and if individuals were to be thanked, Mr. Moore ought not to be forgotten. If what he had done for the Association had been of any use he assured them it afforded him great gratification. He begged to propose the health of the Hon. Sec., Mr. Moore. (Cheers.)

The PRESIDENT said no doubt Mr. Moore had done his duty and something more. At the same time he was only a secretary (Laughter), and they always expected secretaries to do their duty without thanks. (Laughter.) My friend Mr. Smith-Turner was secretary of the British Dental Association, but if he expected to have his health drunk he was mistaken. (Laughter.) A man must be ready to work hard and bear all sorts of hard knocks, or else he was not fit to be a secretary. (Laughter.) Mr. Moore had shown himself to be fully qualified. (Cheers.)

Mr. MOORE, in responding, said Mr. Browne-Mason and himself had worked most harmoniously together, and it was only fair to say that no one had contributed more largely to the promotion of the Association than his colleague. (Applause.)

This concluded the toast list.

Dr. W. A. HUNT has kindly sent us the following account of the luncheon :

After the morning meeting was concluded most of the members availed themselves of the kind invitation they had received from Mr. and Mrs. Browne-Mason to luncheon. Mrs. Mason's drawing-room was soon full, and Mr. Spence Bate leading off Mrs. Mason, we all soon found ourselves in the dining-room face to face with a most elegant luncheon. Perhaps the morning being devoted to the discussion of Dental politics unduly excited our appetites ; but more probably the array of all the tempting luxuries of the season—fish, flesh, fowl, game, fruits, ices, &c.—accounted fully for our so enjoying ourselves. But beyond all this, was the easy and affable manner in which Mrs. Browne-Mason and her

husband received us and introduced many of us who, although well known to each other by reputation, yet were not personally acquainted, and possibly would have remained all their lives unknown to each other except through some such pleasant meeting. The claret cup and the champagne cup, &c., now circulate, and every one seems on good terms with himself and his neighbour. May this be a thing we may look forward to much more in the future than it was possible in the past, that each should live no longer to himself but do what he can to contribute to the general store of knowledge, and see that he is himself worthy of being on good terms with his neighbour; he will then certainly be on good terms with himself. There were no toasts, of course, and indeed our President was obliged to remind us that it was now time to leave this hospitable roof and proceed to the place for the afternoon meeting. And good it was that we had to adjourn, for we ran a great risk of spoiling our appetites for dinner at the Rougemont Hotel in the evening. We bade adieu, therefore, each feeling that everything had been done for us in a truly friendly manner, and when the day was over we could look back and see how much Mr. Mason's energy and liberality had contributed to the success of this the first meeting of a provincial society of Dentists ever held in England.

Miscellanea.

A WONDERFUL DOCTRESS.

THIS miracle, to whom reference was made in the last issue of the 'British Journal of Dental Science,' has departed rather in a hurry, as is usually the case with quack doctors. She was simply, so far as I could see, a common, and rather inferior sample of the old French charlatan. I heard that she extracted teeth instantly, without pain, and that in many cases she charmed them out, using no instruments, occasionally, for a change, extracting them with a walking stick or umbrella, by simply pointing at the tooth. Of course I took the first opportunity of going to learn a lesson, which had apparently been omitted in my professional education. What I did see was a woman, dressed in tawdry finery, extracting teeth, in the roughest and most brutal way, with a large key. I believe the patients actually felt no pain, as immediately close to their ears a most tremendous brass band was doing its very best to drive them wild. I think a

trombone at each ear would reduce the pain in any case. When the teeth were loose the charming process came into operation and amounted simply to a sharp blow with the end of a walking stick on the tooth. Further criticism is unnecessary.

This wonderful lady has written a treatise on the cure of diseases and things in general—a copy of which I enclose. Perhaps the editor will kindly criticise this, my own knowledge is far from sufficient for the work.

When a woman like this can make, as I am informed on good authority she has made, £500 to £600 per week, it would appear that the schoolmaster is abroad, certainly he cannot be here.—THOS. FLETCHER.

PORTRAITS OF PAST PRESIDENTS OF THE ODONTOLOGICAL SOCIETY.

WE are informed that the Council of the Odontological Society has, upon more than one occasion, contemplated publishing portraits of their past Presidents with the 'Transactions,' but a divided opinion in the Council has, until this year, prevented any steps being taken to carry out their idea. On the one side a feeling existed that that body might lay themselves open to a charge of egotism in publishing portraits of their own body, while on the other side it was felt that some memento of their Presidents, more particularly of those stalwart pioneers of Dental progress who have now passed from among us, would be acceptable to the body of the members, many of whom can only know by name those distinguished men. Another question, however, interfered with the carrying out of this scheme, namely, the opinion that the funds of the Society could not properly be applied to such a purpose. So matters rested; when under a recent President of the Odontological Society the subject was once more broached, and this gentleman very liberally offered to subscribe a sum of money so that the cost of the first two or three portraits would in no way trespass on the funds of the Society. Mr. Thomas A. Rogers has also contributed the portrait of his father, which will form No. 3 of the series.

As about 500 copies of each picture are required the Woodbury type process was considered the best suited to obtain so large a number. To guarantee the best results photographs should be taken specially from life, but as the four first Presidents are dead, portraits have had to be made up from existing pictures, some of which are very unsuited to this process. In the case of the first President the only

available likeness was a small *carte de visite* taken late in life, and the large oil painting belonging to the Odontological Society. This latter could not be copied satisfactorily, so the small picture had to be enlarged. No. 2, Mr. John Parkinson, is also from an old photograph, and those of Mr. Arnold Rogers and Mr. William Harrison are taken from the best available works existing. It must be understood that all these pictures have had to be worked up by hand, and will not bear comparison with those telling Woodbury types, the photographs of which have been taken from life. Mr. Weiss, the librarian of the Odontological Society, has undertaken the onerous duties connected with the issuing of these works, and we are assured that no pains have been spared on his part to ensure the best results.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND AND ITS DENTAL LICENTIATES.

SEVERAL complaints have reached us that no list of the Licentiates of Dental Surgery of this College was published in our Student's issue, and all sorts of ungenerous motives have been attributed to us for this omission. We must remind our readers that the Student's number, to a certain extent, bears an official character, as all therein is sent to us or has undergone correction by the officials of the various colleges, schools, and hospitals. We cannot, therefore, publish therein what is manifestly inaccurate and unauthorised. On this occasion the Irish College was the only one that took no official notice of our application for information; it is true that we received a list of the Irish Licentiates, but it came to us from an unofficial source with no official signature or seal to guarantee its correctness. When we add, moreover, that we received in succession no less than four different documents each altering the former one, although the first was marked *complete list*, and that these all emanated from a source notorious to us for its frequent inaccuracies and careless random statements, and that, moreover, the very last document, which would have occupied about six pages, was only sent to us when the journal was all made up, we think our readers will, for the most part, not be surprised at our not having published this list which, under the circumstances, would have been no credit either to the Journal, the Licentiates, or the College itself.

In any other number than the Students' we should have been ready to publish even an inaccurate list, or the best we could get under the circumstances, and we should do so

now, but that the information is no longer new, or even interesting, seeing that it will all appear in a few days in the *Dentists' Register*. For this reason we shall not again publish the list of Dental Licentiates of England, but leave our readers to refer to the *Register*, or the *Calendar of the Royal College of Surgeons of England*, which can be procured from the Secretary of that College for one shilling, and we suppose the Irish College has some similar publication to which inquirers can refer to.—Ed. 'B. J. D. S.'

APPOINTMENTS.

J. S. CRAPPER, Esq., L.D.S.I., J.P., to be Dental Surgeon to the Rugeley District Hospital and Provident Dispensary.

W. O. HINCHLIFF, Esq., to be Dental Surgeon to the "Royal South London Dispensary."

MARRIAGE.—We learn with pleasure that Dr. Luigi Martini, son of Dr. Vincenzo Martini, of Turin, has recently married Signorina Albina Morelli, daughter of Signor Morelli. Dr. L. Martini was formerly a student at the Dental Hospital of London, and was much esteemed by the professors and his fellow-students.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF EDINBURGH.—At the recent primary examinations for this double qualification Mr. H. A. Murphy, son of Thomas Murphy, Esq., L.D.S.I., of Bolton, passed second in order of merit.

TOMES AND TURNER TESTIMONIAL FUND.—We are requested to state that the donation of Mr. Alfred Abel, of Alexander House, Central Harrogate, to this Fund was two guineas, and not one, as erroneously published in the list.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—In reply to numerous inquiries I have received consequent on the publication of a paper on the "Retention of Upper Plates by Atmospheric Pressure" in the August issue, I beg to state that the "Fulsom groove" I described

somewhat in his own words; but, in my own practice, I am accustomed to make this groove $\frac{3}{16}$ th of an inch wide, and from $\frac{1}{2}$ th to $\frac{1}{16}$ th of an inch in depth. I am, &c.,

W. A. HUNT.

Yeovil; September 3rd, 1879.

ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO,
CANADA.

To the Editor of the 'British Journal of Dental Science.'

SIR,—My attention has been directed to the communication of W. G. Beers in your May number, from which it would be inferred that the "Royal College of Dental Surgeons of Ontario" grants licences to "Dentists abroad without examination."

This is entirely incorrect. Our Act of Incorporation was amended early in 1872, at the request of our Board of Directors, so that licences cannot be granted to any Dentist without examination unless he were actually in practice in the Province of Ontario on the 3rd March, 1863.

Will you kindly publish this correction in your next issue, as I am already in receipt of applications for licence from readers of the 'British Journal of Dental Science' as far distant as South Africa, as the result of Mr. Beers' inaccurate statement.

Yours, &c.,

J. B. WILLMOTT,

Sec. R. C. of D. S., Ontario.

Toronto, Ontario; August 22nd, 1879.

To Correspondents.

Communications received from Arthur Phillips, J. F. Kekwick, Wm. Henderson Nicol, Alverstone Gabell, C. S. Leadbetter, "One Disgusted," J. Parkinson, J. Rogers Bate, D. Hepburn, "Licentiate," Browne Mason, T. Fletcher, W. J. Moore, A. Coleman, T. C. Smith, F. A. Huet, J. Crapper, W. G. Weiss, W. A. Hunt, J. S. Turner, M. Moore, J. H. Gartrell, J. Bates, W. Hinchcliff, Dr. Martin, A. Abel.

BOOKS AND PAPERS RECEIVED.

'On Secondary Dentine.' By C. F. W. Bödecker, D.D.S., M.D.S., New York.
'The Dart.'
'The Pharmaceutical Journal.'
'Gazette Odontologique.'
'The Dental Luminary.'
'Annales de la Sociedad Odontologica de la Habana.' Julio & Agosto.
'The Warrington Guardian,' Sept. 10.

Communications must be forwarded to the Editor by the 8th or 23rd of the month, or they cannot be published in the ensuing issues; they must also be duly authenticated by the name and address of the writer.

British Journal of Dental Science.

No. 281.

LONDON, OCTOBER 1, 1879.

VOL. XXII.

Dental Surgery and Medicine.

FRACTURE OF BOTH JAWS, AND ITS TREATMENT.

By J. J. R. BATE, Esq.

Read before the Western Counties Dental Association, August 4th, 1879.

MR. PRESIDENT and GENTLEMEN,—I shall not detain you long by the remarks I am about to make relative to a case of fracture of both jaws that came under my notice about two years ago. I cannot, unfortunately, show you the models of the jaws, as the house surgeon of the institution, under whose care the patient was admitted, has left the institution and town, and has them in his possession. But I will endeavour to explain the case in as clear and concise a manner as possible. Many such cases as the following have no doubt been met with, but still I think every one ought to report their manner of treatment and the amount of success attending such treatment. Fractures of the lower jaw are almost always compound, and they occur more frequently in the body of the bone in the region of the canine or mental foramen. Fractures of the upper jaw are much less frequent than those of the lower, "though their results are often more serious," says Mr. Heath, "owing to the great violence necessarily undergone." The causes are direct blows on the bone. With these few preliminary remarks, I will now endeavour to relate the case in question, without other apology, than following out an old axiom of my own, and that is, whenever we have anything we think at all interesting we ought to bring it forward, no matter how trifling the subject may be.

On July 4th, 1877, a farm lad, W. R—, suffering from an injury he received, caused from a direct kick on his mouth from a horse he had been riding. He was received into the institution under the care of my friends Dr. Sydney Smith and Mr. J. Lloyd the house surgeon.

On examination it was discovered that the upper jaw was fractured in the median suture between the centrals. Three

teeth were knocked out, viz. the left central, lateral, and canine, together with the external alveolar plate; the left palate was completely dislodged and falling down on the tongue; the lip was also much cut. The lower jaw was fractured, rather to the left of the symphysis, in an oblique direction; two teeth were entirely knocked out, the left lateral incisor and canine; the left central incisor was much loosened and displaced. The lip was completely divided. *Treatment.*—The first thing to be done was to raise the palate to its proper position, but the difficulty was to keep it there. This Dr. Smith endeavoured to do by passing a silver wire suture through the dislodged bone and passing it through its fellow on the right, and fastening it around the right central and lateral teeth. This was not found to answer the purpose, the palate still falling low into the mouth. Dr. Smith then requested me to see the patient and try if I could not make something that would keep the jaw in its proper position. The first thing I did was to take an impression—not a very easy task considering the lad could with difficulty be made to open his mouth. However, after some little trouble, I succeeded in getting a sufficiently fair impression in modelling composition, from which I made a plaster cast.

The next thing I did was to scrape away as much of the plaster model as I thought necessary, so as to form a tolerably good roof, or, in other words, to get the displaced jaw as nearly as possible into its proper position. This being done, I made a vulcanite interdental splint, which extended from the first molar on the right side to the corresponding tooth on the left. When finished it was forced into its place in the mouth, and retained there by means of wire clasps and sutures fastened around the teeth. It answered its purpose very well, but there was some little trouble with the lad at first, who, on account of the pain, did all in his power to remove the plate from his mouth. After about a week I removed it for the purpose of cleaning the gums, teeth, and plate, when it was found that the jaw did not drop. It was again replaced, and retained there until the lad was discharged, only being occasionally removed for cleanliness.

The lower jaw did not give so much trouble. The lesion in the lip was drawn together with silver-wire sutures, and the fracture in the jaw was reduced by means of a gutta-percha splint and four-tailed bandage. The left central incisor, that was displaced and loose, was allowed to remain, hoping it might again become useful. The whole of the parts were frequently bathed with Condyl's fluid, and the patient was fed by suction for some time. Both jaws united very

rapidly, and the lad was discharged from the infirmary about the end of September. On 11th October I took his models, so that I might replace the teeth lost through the accident. The left lower central I removed first, because it was still very loose, and secondly, it was not at all in its proper place. I had no trouble in fitting the teeth in their proper position, and the patient's appearance was greatly improved by them, as there was a great flatness in the upper lip, in consequence of the loss of the alveolar process. The teeth and plate served still to keep the jaw in its proper position.

ON A CASE OF SECONDARY DENTINE.

By G. H. MARRIOTT, Esq.

Read before the Western Counties Dental Association, August 4th, 1879.

THIS is a case, which lately came under my notice, of what Mr. Salter, in his work on 'Dental Pathology and Surgery,' defines as "dentine excrescence," coming under the head of secondary or induced odontomes. The patient, a lady about 30 years of age, on coming to consult me, stated that she had suffered great agony from a lower wisdom tooth for several days, and wished me to at once extract it; but this I did not feel justified in doing until I had tried other means for relieving the pain, which I did, and succeeded in affording her temporary relief. I then sent her away, telling her that if the pain recurred with any violence she had better come to me again, and I would then extract the tooth. During the afternoon of the same day she returned, as I expected, for, after a minute examination, I had found there was no exposure of the pulp, so naturally concluded there must be some unseen lesion. The patient now informed me that, although she had enjoyed several hours' immunity from pain, she was again in great torture; so, as she wished to have the tooth extracted under an anæsthetic, I administered methylene and removed it. On examining the roots I could find nothing abnormal beyond a very slight appearance of exostosis. I then split open the tooth, when the cause of all the patient's suffering was at once apparent, for I found a globular-shaped nodule of secondary dentine embedded in the pulp, which, by its pressure and consequent compression of the nerve-fibres, had, no doubt, given rise to the severe neuralgic pain.

TOOTHACHE AND NEURALGIC PAINS.

DURING the last ten years I have not met with a single case in which I have not been able to give either decided relief or effect a permanent cure. The means employed, no doubt, are familiar to many, but I am certain they are not generally known, and therefore the following, although not absolutely new, will be practically so to many.

Where the nerve of a tooth is diseased or exposed, I gently clear the cavity without excavating, dry it with amadou or absorbent wool, and then apply carbolised resin or a small ball of wool, sealing over with a very thin sheet of wax. The sealing is not absolutely necessary, as the carbolised resin is almost insoluble. I give the patient a small tube containing a few drops of the carbolised resin, with instructions to change the plug for a fresh one if the pain is not entirely gone within half an hour. In most, if not all, cases of exposed nerve, a few applications will so entirely destroy the sensitiveness that the tooth may safely be filled without capping.

When the pains are neuralgic, following the track of the nerves on the face and neck, I rub gently with the finger over the track of the pain an ointment composed of veratria twenty grains, lard one ounce. This, of course, is poison, and must be used externally only, avoiding any sores or wounds, and causes a cold tingling sensation a few minutes after application. Its action lasts usually for five or six hours, but if the pain is very severe it should be applied more frequently.

I have tried an ointment made as above, but with vaseline instead of lard, but its action does not appear to be so satisfactory, in fact, vaseline in my hands has proved most unsatisfactory for every purpose to which it has been applied, its one property in not going rancid being not sufficient to compensate for its other shortcomings. My stock of it will be applied to lubricating the lathes, for which purpose it appears to be specially suited when mixed with sperm oil in sufficient quantity to make it fluid.—THOS. FLETCHER.

REPLANTATION.

THE operation of replantation is not believed in by many. It is a useless one, and never destined to have much faith reposed in it. But for all that, we are occasionally brought into contact with instances of the operation, which awakens

our interest and cause us to wonder to what extent it is carried in the present day.

A few months ago a lady patient called upon me respecting an upper artificial denture. The case was a simple one, six teeth only remaining, the two centrals, canines, and wisdoms (artificial teeth had been worn before). One of the centrals I discovered was loose. Questioning the advisability of allowing it to remain in the mouth, I extracted it, and after the operation learned the following :

The patient had lived some time in America, and during her stay there had submitted to three operations of replantation, two, a lateral and bicuspid, not being at all successful. The loose central extracted was the third. Noticing that it was a smaller tooth and not the same shade, I sought an explanation. It appeared that her own tooth was decayed and terribly painful, and her desire was to lose it, but the operation of replantation was again suggested by the Dentist. Her own tooth was broken while attempting to fill it, when out, and another central, not a good match, was substituted. To my astonishment it had remained in its position for nearly two years, although the cause of a great amount of uneasiness.—W. HODGSKIN HOPE.

Wellingboro'.

Mechanical Dentistry.

ON THE MANUFACTURE OF CONTINUOUS GUM WORK.

By J. SUGDEN CRAPPER, Esq., L.D.S.

IN reference to the article (in your August issue) on continuous gum work by F. H. Balkwill, Esq., L.D.S., Plymouth, I should like to offer a few remarks, as the result of several years' experience leads to many opposite conclusions.

Since reading a paper on this subject before the Odontological Society in November, 1877, I have been carrying on extensive experiments with the view of overcoming the objections then raised, and one of the results has been that I cannot obtain such good results from gas furnaces as they are now constructed (and I have tried nearly every one of them) as from a coke furnace made in accordance with my special pattern, with the ordinary muffle and two cooling muffles, the latter being so arranged that they are not subjected to the full heat in firing, and are not, therefore,

rapidly burnt away, the back parts being flush with the interior of the furnace. It is also a great advantage to have the heat of the furnace under control, so that when what may be termed the fusing heat is not required the parts which are left to receive the atmosphere can be closed up with doors (composed of the same materials as the furnace), which can be taken out and replaced at any time. Considerable practice is necessary to thoroughly understand the working of the furnace.

No difficulty is found in producing beautifully finished pieces, combined with a strength which has been unattainable with any gas stove I have tried. Experience teaches that a porcelain body fusing at a low heat cannot have strength to bear comparison with bodies requiring a hard or fierce fire. The body and gum enamel which I prefer require a harder fire than even Allen's porcelain body and gum.

As regards the disadvantages of platinum in continuous gum work as expressed by Mr. Balkwill, the complete success of a large number of cases supplied to my patients constructed on platinum on the atmospheric-pressure principle fully justifies my concluding it the best material, and if a piece is constructed properly the little extra weight is not felt by the patient. Having made for experiment entire upper pieces for my own wear of nearly every kind of material that has been introduced as a base for artificial teeth, I am now and have been wearing during the last three years an entire upper set of continuous gum work on platinum plate, I can speak with confidence of the many advantages gained without feeling the slightest inconvenience as to the weight. Moreover, the same applies to numerous patients using the same class of work, who could not be prevailed upon to wear any other kind.

As through a patient not being sufficiently careful, such as cleaning and brushing a piece in an ordinary porcelain vessel instead of a wooden one, an accident might occur which would take much valuable time to repair, entailing considerable cost upon the Dentist or his patient. I always impress the necessity of this care on my patients, and point out that the cost of repair is much more than in ordinary work, and find that where patients are in a position to pay for this class of work, although the drawbacks of the greater liability to accident, &c., may be clearly pointed out to them, intelligent well-to-do patients will consider the extra quality and beauty of the work to more than compensate for the extra cost. The words of the great Wedgwood, whose name will ever live in Staffordshire and in the memory of the patrons of

art and science, are very applicable to this artistic work in particular, where he says in his work on the "Art of Potting:"—"All works of taste must bear a price in proportion to the skill, taste, time, expense, and risk attending their invention and manufacture. Those things called dear are, when justly estimated, the cheapest. They are attended with much less profit to the artist than those which everybody calls cheap. Beautiful forms and compositions are not made by chance, nor can they ever in any material be made at small expense. A competition for cheapness, and not for excellence of workmanship, is the most frequent and certain cause of the rapid decay and entire destruction of arts and manufactures." Having within the last twelve months made many cases of partial pieces with continuous gum teeth fitted to the exact position required where it would be impossible to find the configuration of sectional gum teeth; to suit one of these was a case for a patient who having lost the four lower incisors (the upper one being retained), and upon closing the mouth the upper frontals nearly touched the lower gum; the lower piece of course had to be constructed in such a manner as to enable the patient to retain the natural bite, the lower incisors had necessarily to be considerably sloped, so that when the mouth was closed the upper teeth would cover them, the natural appearance of continuous gum being in sight, was infinitely superior as a work of art compared with the unsightly appearance of vulcanite, which otherwise might have been adopted. The patient had only the two lower canines remaining, which, being fairly firm, acted as good retainers for the piece, and the result has been most satisfactory.

I now give particulars of the *modus operandi* and the advantages in partial cases by adopting the continuous gum process. In the case referred to I proceeded as follows: Having obtained a model of the case, representing the lower with the two canines only remaining, wax was modelled to the thickness required for substitution of vulcanite, then an impression over the wax was taken, and having obtained a model in plaster, castings were made for them, and a thin rim of platinum struck up and placed on the wax, and arranged to the bite. I then proceeded to adapt the continuous gum teeth, and after sinking them in loam of plaster of Paris and asbestos, the pins of the teeth were soldered to the plate with fine gold, and after taking out and cleaning in the usual way the piece was fixed on a saddle of plaster and sand combined with powdered fire-brick, and then dried, when the porcelain body and enamel were applied in the manner described in the paper alluded to, excepting that in this case no

platinum wire was necessary, as the plate at the finish had to be embedded in vulcanite. It is now to be understood that the piece with the four incisors, bicusps and molars have gone through the process of enamelling, and the continuous gum body presents itself on the labial surface only, leaving the pins and plate on the lingual surface to be treated as follows:—The plate replaced on the model, waxed up as described, and filled up in the interior with wax to represent an exact counterpart of the intended shape, and finally the teeth were inserted in a flask and vulcanised. Entire and partial upper pieces have been made in the same way, which have answered the purpose admirably.

Those gentlemen who would like to try upper pieces constructed with continuous gum work around the labial portion, and vulcanite palates attached, I advise to read the paper on the "Retention of Upper Plates by Atmospheric Pressure," by W. A. Hunt, Esq., L.R.C.P., London (p. 393 in the August number of the 'British Journal of Dental Science,' where he refers to the Folsom groove principle. I have found much assistance in giving increased security to upper cases by the striking up of plates in meter metal of No. 9 or more thickness a great help to secure a good fitting piece, because a piece after being set up, say to a temporary bite, may be finally tried in the mouth without fear of disarranging the teeth or palate, such as we may encounter by using wax only for that purpose. Like Mr. Hunt, I find that in some few cases spiral springs (generally of a light description) are required, where a great deal of absorption of the alveolar process of the lower jaw has taken place accompanied with loss of control over the muscles after having been without teeth for a long period. In such cases I recommend my patients to wear the set for a few weeks without springs so as to enable them to regain some of the lost power.

My opinion is, that there are few cases that cannot be made without springs, especially if the plan of making cheoplastic or continuous gum lowers is adopted so as to give additional weight, if at the same time plaster impressions are taken for the upper and worked on the principle of the Folsom groove which Mr. Hunt describes, failures will be found decreasing, but still there will be failures, as some people cannot wear sets without springs, however carefully they are made and fitted. Most Dentists have doubtless noticed in their experience that these are generally people who have suffered a great deal from illness, who get impatient and are of a nervous temperament. The buccinator and orbicularis oris muscles of these patients, instead of holding up the plate

have a tendency to push it down, because the patient loses the control over them to a certain extent. In these cases where a patient could not wear a vulcanite piece with comfort the difficulty may be overcome by substituting a cheo-plastic or continuous gum lower.

Where the angle of the lower jaw has become very obtuse, and where the muscles of the face have fallen in very much, springs generally cause great inconvenience unless very carefully adapted and arranged to keep off the pressure of the cheeks against them.

There is still another point which is of great importance, and which Mr. Hunt alluded to in his article, viz., instead of making the buccal surfaces convex, make a groove into which the buccinator may fall, and thus tend to retain the plate instead of acting antagonistically.

Lastly, I will only refer to the necessity where stumps or teeth have been recently removed of letting the patient wear a temporary set of vulcanite or celluloid until the parts have been fully absorbed, because when an expensive piece of work has been made for a patient, and alterations of the mouth follow, it is difficult and very often impossible that a set of teeth (however excellently adapted in the first instance) can be altered with satisfactory results.

I trust that some of the foregoing results of experience may prove useful to gentlemen commencing to work continuous gum.

Hanley, Staffordshire.

ON THE POSSIBILITY OF MAKING PORCELAIN GUM BLOCKS IN THE ORDINARY DENTAL WORKROOM OF GENERAL PRACTICE.

By F. H. BALKWILL, Esq.

Read before the Western Counties Dental Association, August 4th, 1879.

GENTLEMEN,—Having imagined that I saw the road to reducing the tedium and expense attending the working of porcelain gum blocks to a process comparatively easy, and which would enable it to be as commonly worked as vulcanite, in the enthusiasm of anticipated success I promised our Secretary to give a paper on the subject with practical illustrations. In preparing these, however, I have met with so many hindrances and disasters, that it occurs to me that I was rather rash to offer to occupy your attention with a process which can hardly be said to be yet in its infancy.

I will, therefore, claim your indulgent criticism. I can produce no grand successes, but I have made a good many

experiments during the last two years, and although these in the main were failures, yet the lessons learned have enabled me very much to simplify and shorten the process, and may be of use to any one who feels inclined to work in the same field; and in apology to others I can only say that I suppose from the grain of truth which there is in that abominable maxim of Rochefoucault's that, "There is something not entirely disagreeable to us in the misfortunes of our best friends," from experience I have found myself, as will my professional brethren, quite as well entertained by, and disposed to give credence to, a narrative of a failure as of a success.

The idea of being able to make continuous porcelain gum work has always exercised a sort of fascination for me, and I think the feeling is pretty general. When a pupil in your work-room, Mr. President, I remember that you had an inclination in the same way, and some extraordinary blocks I helped to make there. One which we considered a great success, I remember, we showed with pride to a medical friend who came in, when he burst out laughing. This so cooled our ardour, that, I think, it was the last we tried.

Many Dentists have had furnaces fitted up, but they have, I think, with few exceptions, abandoned the work. This showed that it is an ideal, and as a matter of fact no material has approached porcelain as a natural imitation of the gum.

The use of gum blocks is restricted and inconvenient in some ways. We require to be able to adapt the teeth to the bite or appearance individually, and the fact of having to move them in blocks is a serious disadvantage. What we want is to arrange the teeth and add the gum afterwards. It is to this aim that my efforts have been directed. When Mr. Fletcher brought out a gas furnace for the purpose my thoughts were directed to the subject, as I thought that the early applications of the means of heat would make the process practicable.

I therefore determined about two years ago to make a few experiments, and procured some of the materials as supplied by the Americans for the purpose. Messrs. Lemale & Co. were also kind enough to supply me with some of their own body and gum, and not only so, but Mr. Fawcett, of their firm, with a kindness it is a pleasure to acknowledge, took much trouble in giving me information when I met with any difficulty, and also sent me several different gums to experiment with.

My first experiment was in a furnace, which we used to melt our gold with, a blacksmith's forge-bellows, and a coke fire, two blocks, one of American gum, the other of

Lemale's, were placed in a muffle, which was covered over with coke and a white heat kept up for half an hour.

Lemale's gum had disappeared, the American was as you see it. Convinced by this experiment that heat would melt the gum, I procured Fletcher's furnace, and having a set on hand which was very suitable for it, arranged the teeth for the work. But to try the gas furnace first, put in a small block, but, although I got heat enough to fuse this, the colour was quite spoilt, and it was some time before I found out that the cause of this was the construction of the muffle, which allowed the entrance of burnt gas. The slightest entrance of this I have since found always fatal.

If a muffle cracks so as to admit the entrance of gas, the best way is to fill up the crack with a little body. After this defect was remedied the pressure of the gas or the direction of the wind varied so that I could not get heat sufficient, and enclosed was the result. As the set could not wait, it was sent out in the usual way.

After some further experience I had some success, sufficient to send out a couple of suction vulcanite uppers with all the eight teeth in a continuous block, but the process was very tedious. After the block was set up it had to be gradually put further and further into the furnace, taking three or four hours to reach the hottest place, and then to be kept there half an hour; then as the material contracted in fusing cracks took place, these had to be filled up after the piece was cooled down, and the process repeated, so that it took at least two days to make a block. One block, which was otherwise tolerably successful, was spoiled by using water, for the gum, which had been exposed in the workroom all night, and had presumably absorbed gas products, as the fresh gum was spoilt in colour.

The slightest amount of over-heat I found spoilt English teeth, first bleaching them, and then causing them to melt and lose shape. In this respect, I found Ash's teeth stood better than Lemale's, but neither of them are to compare to American teeth in refractiveness.

But the difficulty which finally compelled me to abandon Fletcher's gas furnace was the impossibility of sufficiently annealing the pieces. The draught of cold air which took the place of the flame after the gas was turned out, made nearly all the pieces inclined to coare; and, indeed, this difficulty I have not quite got over yet, although I think the means of doing so are sufficiently evident. One very curious cause of coaring occurred. Having run short of the American body I tried some American gum over Lemale's body, but Lemale's body melts at a lower temperature than the American

gum, so that remaining melted after the gum was hardened its contraction at a different time has caused the American gum to crack in all directions.

A few months ago, an article by Mr. Fletcher drew my attention to the subject again, and I determined to make a few experiments with his injector furnace. The first experiment I made by placing a small muffle upright in the furnace and making a lid or brim to it by surrounding it with plaster and sand, so as to rest on the edge of the furnace allowing vents as rays all round.

I found a great convenience in working this, that the state of the work is easily seen and the heat attained was quite sufficient, and I suggested this form to Mr. Fletcher, who had this furnace made to meet the suggestion. I found this furnace hardly give heat enough, the muffle being too large and shallow for the power of the flame; but the greatest cause of difficulty is, that the burnt gas naturally rises, surrounds the mouth of the muffle, and so gases the work.

My next trial was to enter a small muffle in the injector furnace opposite the injector, bringing the muffle through the furnace, so as to touch the side next to the injector, but keeping it off the bottom so that the flame can play all around the muffle. I find in this little furnace that all the heat required can be obtained, about thirty-five minutes being all that is required to do the American gum, or twenty-five Lemale's.

After many experiments I have found it best not to dry and slowly heat the blocks, but to place them at once, whilst wet, in the furnace and heat up quickly, *i. e.* in ten minutes. The reason I cannot tell. I suggest that the steam going out through the surface of the gum keeps this cool the longest, so that the interior begins to contract first, but certainly I have had much less trouble with the blocks when placed in wet and quickly heated up than when carefully dried and slowly heated up, the cracking and curling up being in this case often very disappointing. This I consider one great step gained; instead of taking nearly all day after the block is made in slowly drying and heating, it can be done at once in thirty-five minutes. When there are more than three or four teeth I have found no certain cure for its cracking in contracting, and to ensure their being small and coming in convenient places, so that you may successfully fill them up in the second treating, I think it expedient to divide the gum with a knife whilst moist, on each side of the laterals in an upper block of eight teeth. Even when a block of eight teeth is safely made and mounted in vulcanite, the inherent weakness of its shape is such that the mere handling

in polishing is almost sure to cause flaws to appear. These, however, do not interfere with its strength, as from the number of pins in the teeth there is a superabundance of retaining power, and for strength the piece depends upon the vulcanite; nor will they be visible in wear, although they may appear as blemishes to the work in hand. I do not, however, propose the work generally for such large pieces, but rather imagine it may prove serviceable for the four incisor teeth, above or below, when these have to be replaced between natural canines where there is much recession of gum. The want of power to do this adequately for a young patient has often been felt by myself, and therefore, no doubt, by others.

Two other precautions have to be noticed before describing how a block is made. In the first place, as the whole block will contract in the fire, the teeth must be set rather apart than they are wished to be in the finished piece; and secondly, the gum and body become viscid whilst contracting, and draw the teeth out of their hold in the plaster. To meet the latter difficulty two methods may be adopted:— Either twist fine platina-wire loops around the pins of the teeth before investing them, so as to give them a firmer hold in the instrument, or allow a slight ledge of plaster to come just over their edges in front. The first plan is rather troublesome to do; the latter has the disadvantage that the plaster sticks to the tooth when hot, and rather spoils the polish. I will now describe the method of making a block. First mount the teeth on a wax trial-plate, either to a correct bite or to the mouth, according to usual practice, only do not allow the wax to come up about the pins behind the teeth. To fix them to the trial-plate drop sufficient wax on them in front, but allow a little wax to project through between the divisions between the teeth, so as to strengthen the block, as the body is to take the place of the wax. Having mounted the teeth in the wax to the positions it is desired they should occupy, place the piece on the model and cut away all the wax behind the teeth except just so much as holds the teeth together and what covers the gum in front. The teeth and wax together now represent the desired block. Make an investment of equal parts silver sand and plaster, and set it so that the front teeth shall be horizontal and uppermost, and with a little plaster only continue the investment a little over the edges of the teeth. When set boil out the wax and the teeth are retained ready for the application of the body. The body is to be mixed with perfectly clean water, and the whole mould filled and modelled up to the fulness it is wished the future gum to be. A layer of gum is then to be added of about the thickness of a fourpenny-bit

over the body divisions made on each side of the lateral to control the cracking, and the piece placed at the far end of the muffle with the gum farthest in. Heat up slowly for five minutes, then put on full power so as to get to a white heat in ten minutes. Ten to fifteen minutes of moderate white heat is sufficient for Lemale's gum, and twenty to twenty-five minutes for the American. To gauge the heat is a nice point. No doubt eyes differ, but I find if I lose the outline of the piece in the heat there is danger of the gum running away altogether. Stop up the injection hole with a small crucible and the escape by overturning the chimney, and give two hours for cooling. Then fill up the cracks with fresh body and gum and repeat the process.

ON THE WORKING OF CELLULOID.

By J. A. GARTRELL, Esq.

Read before the Western Counties Dental Association, August 4th, 1879.

MR. PRESIDENT AND GENTLEMEN,—The Council of the Western Counties Dental Association having done me the honour to nominate me to read a paper at this meeting on celluloid, I do not know that I can make my observations more useful than by offering my experience, with the object of eliciting the experience of other members on this somewhat novel subject. The material known as celluloid has now been introduced for several years as a base for artificial teeth, but the first attempts to use it were mostly unsuccessful, and led to its being speedily abandoned, and it appeared to be finally condemned as an unreliable material for Dental purposes.

Its evident advantages, however, over rubber in colour and strength has again created a desire within the last two or three years to give it another trial, and it is now being used successfully by a number of practical operators in this country, and it is evidently destined to play an important part in the Dentistry of the future. It is the general impression that the material is an American invention solely, but patents for similar processes, based on the gun-cotton and collodion formulæ, were taken out in England many years before it appears to have attracted attention in the United States. Gun-cotton dissolved in ether and alcohol forms collodion, and when the solvent is evaporated the result is a horny material. This is used in many combinations—with gums, ivory dust, vegetable fibre, &c. The combination with gum-camphor appears to be most useful, and is known as

celluloid. It is made by dissolving gun-cotton in pyroxylin with camphor by heat and pressure. An excess of camphor is combined with pyroxylin in the plates for Dental purposes, to admit of the material being sufficiently plastic to mould. To produce, however, the best Dental plates, the excess of camphor requires to be evaporated during the process of packing the mould, and the plasticity gives place to elasticity.

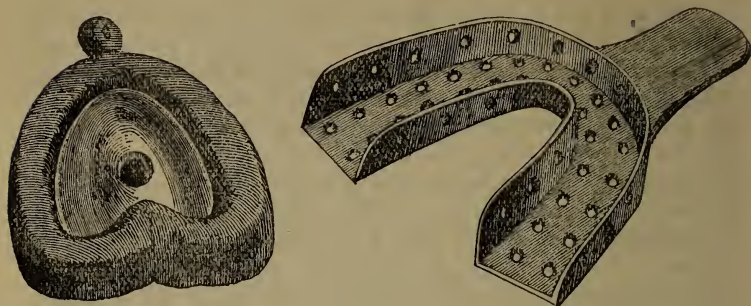
A little of the prejudice against celluloid has probably been caused by its method of manufacture, so nearly assimilating to that of gun-cotton, leading to a comparison between the two substances as to its explosive nature, and this prejudice has probably been increased by recent accidents whilst manipulating it for Dental plates. Celluloid is not, however, in any degree explosive in the steam space of a Dental boiler, although it is reduced to a black powder at a temperature between 300° and 400° Fahr., and is rapidly consumed when ignited in the open air. To practical operators, the methods and appliances for bringing celluloid into the forms and conditions required for our purposes are the most interesting, and I propose to give a brief description of the processes that I have found to be most successful. Owing to the great pressure required to mould celluloid, and the subsequent contraction in passing from the hot state to the cold, I have, from the first, recognised the advantages offered by metal moulds over the ordinary methods of moulding between plaster surfaces, and this has been the leading feature in manipulating the material.

At first I made these models by moulding a thin plaster model in sand, and obtaining a casting in the same manner as we make the ordinary zinc dies. I have for some time discarded this plan in favour of making the models direct from a plaster-and-pumice impression, and this has proved so successful that I now adopt it in every case. The material that has been found the most suitable for the impression is a mixture of three parts of plaster to two of fine pumice. Plaster alone is unsuitable, as to pour the metal into a moist plaster impression would destroy the die, and to attempt to drive off this moisture by heat would prove equally fatal to the impression. The mixture, however, of pumice powder with plaster not only admits of taking an accurate impression, but retains this accuracy whilst drying and pouring the metal.

The trays differ in no other respect from the ordinary German-silver trays, except in the perforation of holes over the surface about the eighth of an inch in diameter. These holes are essential to securing the material in the cup, and

to facilitate the escape of moisture in drying or on receiving the metal for the die.

These are specimens of the trays. It will be observed that they are formed without a centre or palatal portion. This opening is covered with wax. The pumice and plaster should be intimately mixed and kept ready for use in an air-tight vessel. To hasten the hardening in the mouth I prefer



mixing it in a solution of dried alum—one ounce to a pint of water. With a little practice it will be found quite as easy to use as wax or anything else. In difficult cases, where the teeth overhang, it is best to allow the impression to break at the points of difficulty and join the pieces afterwards. A small hole is now made through the highest part of the palate, and the impression placed in a gas oven or other suitable place to be dried. The drying should be continued until vapour ceases to be given off, the test being a mirror held over the impression, the glass becoming clouded while there is any moisture left. When dry the impression is placed aside till cold. The hole in the palate is then filled with moulding sand, which, being porous, serves to carry off any vapour formed at the time of pouring the metal. The next step is to surround the impression with a wall of pipe-clay and the metal poured in for the die. If it happens that the impression has not been sufficiently dried and bubbling takes place, the metal should be kept melted with a blow-pipe till the bubbling ceases. It is important that a suitable metal is used for making these casts; it should not contract or expand but little, and the casts should have a smooth and bright surface. After trying a number of alloys I have adopted an alloy of tin and antimony, as satisfactorily answering the required conditions. Grain tin alone will answer the purpose well, and if it is Australian tin it can be depended upon as the purest and most suitable to be obtained.

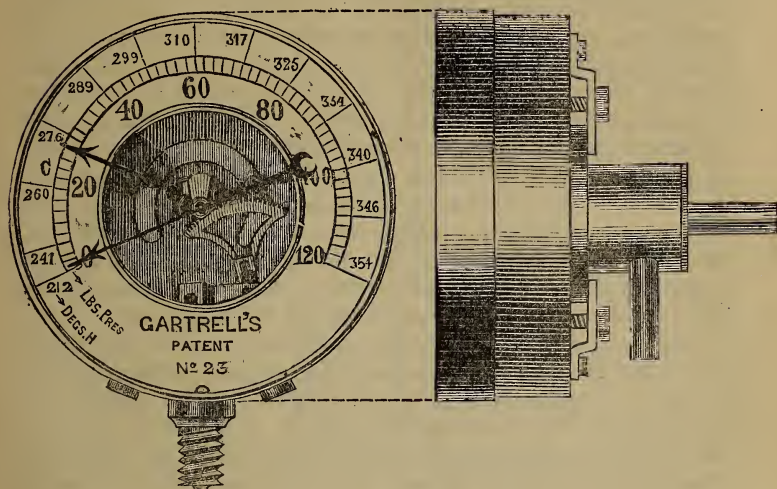
The plan described for preparing the metal models is especially useful for partial or "scattered" sets, as the surface of the model representing the gum and palate will not only be very accurate, but the inclination of the natural teeth or any overhanging teeth forming dovetail spaces will be correctly copied. The difficulty of removing a celluloid plate from one of these models is readily obviated by cutting partly through the metal teeth from the inside with the ordinary piercing saw; the saw cuts are then filled with plaster or they may be left open; the portion of the tooth not sawn through is cut away with a chisel previous to removing the celluloid plate from the model. In this manner the plate can be easily got off any model, and the metal teeth afterwards picked out of their places in the plate separately. Another advantage gained by using a metal model for partial cases is in being able to secure firmly the outer ends of gold bands to the metal teeth with soft solder. A bit of the solder is dipped in muriate of zinc and placed on the band where it is desired to catch it to the tooth and then melted with a blow-pipe; this will effectually prevent displacement of the band in moulding the celluloid; the end of the band caught by the solder is loosened with a scalpel before removing the plate from the model. In setting up the teeth upon the pattern plate care should be taken that the front teeth do not touch each other. The object of this precaution is to prevent the contraction of the celluloid in cooling from breaking the front teeth. If the celluloid plate after being moulded is kept under pressure in the machine for a short time, at a heat sufficient to evaporate the camphor rapidly, the plate must necessarily contract in becoming cold, and this contraction is sufficiently powerful to crack the front teeth in their weakest parts, *i.e.* across the pins, if they are set so that they cannot give or escape from the force of contraction. The cause and effect are precisely the same as the breaking of the front teeth by the contraction of gold solder in plate work, when the solder runs from one backing to the other, and there is no provision made for the contraction by leaving a slight space between the teeth. For the same reason a celluloid plate made upon a metal model, obtained from a plaster-and-pumice impression, will always be found to be a superior fit to a plate made upon a plaster model, which is in great part composed of water and cannot be expected to withstand and keep its original form against the great force of contraction. The methods of flasking, cleansing the mould, &c., being similar to vulcanite work, I will pass them by to the packing of the mould.

The celluloid blanks supplied for this purpose come into

our hands in a variety of shapes, suitable for full and partial sets, but they frequently require to be sawn or filed to an approximate fit to the mould. As it is necessary to heat these blanks to render them sufficiently plastic, the appliances used for this purpose are of the first importance. These may be classed under the heads of oil or glycerine, dry heat, and steam. In all of these the object aimed at is to apply the proper degree of heat to every part of the mould and the celluloid whilst it is being pressed into form by screw pressure. The oil bath answers the purpose when the oil is new and clean, but it soon becomes thick, and as liquids are heated by the lower portions expanding and rising to the surface, it follows that the thickening will delay this process to some extent, and the oil and flask immersed in it will not be uniformly heated; particles of dirt and plaster are also liable to get into the oil, and find their way into the mould, soiling the celluloid plate. With dry heat it is still more difficult to heat the mould uniformly. None of these objections apply to the steam process in a properly constructed apparatus; uniformity of heat is ensured by the steam penetrating to every part of the mould. The heat of steam can also be taken by indicating its pressure with the greatest certainty. In this connection I would call especial attention to the management of the heat, as I have no doubt from my own experience, and the experience of others with whom I have been in communication, that the imperfection and uncertainty of thermometers has been the greatest source of trouble in manipulating celluloid, and it has been pointed out before by writers on Dental mechanics that the ordinary Dental thermometers are very unreliable, and much inferior to a well made steam gauge as heat indicators, but to make a perfect instrument as an appendage to a vulcanizer, it should perform two other important functions, viz. to control the heat at the vulcanizing point automatically, in order to avoid the anxious watching and attention during the time occupied in treating celluloid and rubber in the vulcanizer; and also possess the means of being readily set to act automatically at any degree of heat desired. With these objects in view I have given much time and effort within the last two or three years to perfecting an instrument that should satisfactorily fulfil the required conditions, and a few months since I succeeded in originating a combination of steam pressure gauge and gas regulator, which answers the purpose admirably, indicating the heat with the greatest perfection, and affording a security that is a positive relief to the operator.

Whilst engaged in working out this instrument I was led to

testing a great many thermometers from different makers for the purpose of determining their accuracy as compared with a steam pressure gauge for showing the pressure of steam by taking its temperature, obtained from Messrs. Negretti & Zambra, of London. These instruments show



Dental thermometers to be anything but correct to Fahrenheit scale, and in most cases vary from it as much as 25 to 30 degrees. Moreover, in testing a number of thermometers together, they will be found to vary greatly from each other. Notwithstanding this difference they are probably being used to vulcanize rubber at the same degree of heat, as shown by their respective scales. It must be the conclusion, therefore, that a great many rubber plates imperfectly vulcanized have been inserted in the mouths of patients, and the failures to work celluloid successfully are doubtless, in great part, owing to defective thermometers. Another important consideration for those who use vulcanizers is the elastic force of steam. I find there is a great discrepancy in the tables published for the purpose of showing the pressure produced by a given temperature on Fahrenheit scale, and being anxious to find the correct scale for the dial of the gauge, I have, after investigating the subject to some extent, adopted the table which is used by the French Government as being the most reliable. It also agrees with the table in use by Negretti & Zambra.

To show the difference that exists in those tables, it is only necessary to compare the table given in Messrs. Ash's Catalogue with the scale on this thermometer by Negretti and

Zambra. The former table gives the pressure at 275 degrees of heat Fahrenheit as forty-five pounds on the square inch. Whereas the latter show the pressure, at the same degree of heat, to be only thirty pounds, a difference of fifteen pounds, or one atmosphere. The water poured into a Dental boiler for generating steam in treating celluloid need not be but a small quantity, as in becoming steam it expands to nearly 1700 times its volume, or a cubic inch of water becomes a cubic foot of steam at 212° Fahr. The heat which I prefer for moulding celluloid is about 260° Fahr., or twenty-four pounds pressure by the gauge. At this temperature the material can be thoroughly moulded, and there is no risk of the plates becoming porous if strong pressure is applied towards the end of the packing process. After the moulding is completed, it hardens and toughens the material to allow the heat to sink gradually, and the flasks, after removal from the boiler, should not be released from pressure till they are quite cold.

On account of the numerous failures to produce celluloid plates free from warping by the ordinary methods of moulding on plaster models and cooling rapidly in water, a general impression has been created that this is a defect inherent in the material itself, and consequently cannot be used as a Dental base with confidence. It is now, however, well-known by those who are successfully using celluloid that the plates do not warp if they are properly treated in the steam machine, and afterwards permitted to become quite cold before opening the flask. It is better also not to expose a newly made and polished piece in a dry place for a day or two, but to keep it in water till the patient calls. By this treatment the plate becomes seasoned or set in its new form, and the patient can with impunity leave it out of the mouth or put it aside without risk of its warping any more than a vulcanite plate. Evaporation of the camphor after the piece is made is, without doubt, partly the reason why plates warp; the inference is, therefore, plain that this should be thoroughly done in the boiler, and this necessitates as high a temperature as the material will stand without producing porousness, as the excess of camphor will then be driven off rapidly, and the plate made harder, denser, and much stronger than when moulded at a low heat.

ON A MEANS OF OBTAINING ADHESION IN FLAT SMOOTH SURFACES.

By THOS. FLETCHER, Esq., F.C.S.

Read before the Western Counties Dental Association, August 4th, 1879.

In the course of twenty years' practice I have had some few times to resort to the use of springs where I have failed to obtain satisfactory adhesion by simple fitting. I have for years attempted to devise a means of obtaining adhesions in flat plates, and have obtained perfect success by a very simple process. The ordinary heart-shaped chambers are, so far as my experience goes, of no value whatever, and are an annoyance to the tongue. I have never found the slightest practical difference between two plates struck upon the same dies, one with and the other without the chambers. In most cases it is an advantage to pack up the whole of the centre of the hard palates, as the ridges, being usually softer, allow the plate to give under pressure, causing it to tilt and ride. A slight lift in the whole centre of the plate prevents this, but even this remedy is of little use in those cases, which one occasionally meets with, having a very flat surface, smooth, hard, and almost free from rugæ. It is to these cases especially I refer in the following:—Personally, I object strongly to the use of vulcanite for upper palates, as being clumsy, liable to accident, and causing an unpleasant sensation of heat. But where vulcanite is used, either for uppers or lowers, the effect desired can be obtained by striking up a plate of light platinum gauze, placing this on the plaster mode, pressing it carefully down all over with the finger after it has been softened by annealing, and then packing the rubber on the top of it. When the flask is brought together the pressure causes the part where the wires cross, to bed slightly into the plaster, and when the plate is finished the surface has almost the feeling and appearance of a file. The minute irregularities on the surface bed themselves into the gum without pain or trouble in a few minutes, and the increase in adhesion is very marked as compared with a smooth surface of vulcanite, side motion being entirely prevented.

I was led to this process from knowing the fact that a layer of old linen stitched to a plate which has become useless will at once make it serviceable:—The adhesion, from being absolutely *nil*, becomes sufficient to enable a plate to be worn with comfort. This at once got over my difficulty so far as vulcanite is concerned, but as I do not use vulcanite, except as a filling-up for absorption and for bulky lowers, the difficulty remained unsolved with gold

plates, and I have until lately used vulcanite with platinum gauze in some cases where I should have preferred gold. Now, however, it would appear that a more perfect adhesion can be obtained with gold than with vulcanite, and by an exceedingly simple process. After the plates are cut out, and whilst in the flat, I cover the side in contact with the gum with small hemispherical indentations by the use of a hammer and very small ball-headed punch, making, in fact, all over the plate hundreds of small vacuum chambers. Of course, in time, the gum grows up and fills these, as with all other chambers; but this is not the slightest objection, as the rugæ produced by this means give the resistance to side motion, which is the first necessity in the retention of a plate in the mouth with comfort. It will, of course, be objected that this working of a pattern over the whole plate is tedious. I am getting some punches made which will make, perhaps, forty or fifty indentations at once. How these will work remains to be seen, but I do not think the difficulty is great, so far as the production of a satisfactory punch is concerned. With the single-pointed punch there is a large scope for artistic skill in the hands of a competent workman, as will be seen from the rough specimen I forward. The thing itself is quite sufficient to entitle it to a position far above what might be classed as ornamental or fancy work, which cannot be permitted in artificial dentures.

British Journal of Dental Science.

LONDON, OCTOBER 1, 1879.

ON the day of publication of this number of our Journal, October 1st, the medical schools will reopen for the session of 1879-80, and the Dental schools will also resume active work, but under what different aspects and under what wonderfully changed conditions! Hitherto the students at our Dental schools held simply the rank of volunteers among the seekers after knowledge; now they are enlisted recruits for the army of professional men, into whose ranks they cannot enter without conforming to the various rules and regulations laid down for their instruction. Hitherto, however great their attainments, they held no higher rank

in the eyes of the law than the barber, jeweller, or chemist's assistant, who varied their occupations by extracting or breaking teeth. But now the Dental student may enter upon his career with the satisfaction of feeling that he will have but few of his own generation to compete with him in the struggle for practice, that have not undergone the same educational training that he has himself. We say advisedly that he will have *but few* because, undoubtedly, he will have some of his own generation who will, under various pleas, be able to claim exemption from the enforced study required by the Dentists Act; but their numbers will be few, and their weight of comparatively little value, whilst successive generations of Dental students will leave them further and further in the rear without any possibility of their numbers being added to. We would then urge our young friends who are now entering upon their student's career to pass by unheeded these exceptional cases, and seek by attention to their studies, and application to the numerous opportunities afforded them of practical instruction, so thoroughly to qualify themselves, not only for examination, but for successful practice on the public, that they will be able without loss to hold their own, should they occasionally be brought in contact with some of those who have, as it were, slipped into the profession by the side door of the Dentists' Register.

Literary Notices and Selections.

CRITICISMS AND REFLECTIONS ON DENTISTRY.

By LUIGI RIBOLLA, Nicodemi.

FOR some time, thanks to the efforts of Messrs. Flagg, Bogue, &c., a very serious question in Dental matters has been raised, that is, to find a new substance for filling which would possess the power of completely preserving decayed teeth. Many learned practitioners taking the point of view of the desired absolute unalterability of the substance used for filling in the point to which it is applied enter into purely speculative considerations, and are divided into hostile camps, each accusing the other in turn of the

want of success their preferred substance has had. Some give the preference to gold in one form or another, others are warm advocates of amalgam and of plastic fillings, and others, again, not satisfied with the results, on account of repeated failures, seek for a new "philosopher's stone," inundating our markets with an overwhelming quantity of new preparations more or less good and more or less illusory.

Whoever tries really to find a substance which placed in contact with the tooth and in the midst of the liquids and agents of destruction which exist in the buccal cavity remains not only unaltered, but which protects the bone from ultimate decomposition, undeniably does a good and praiseworthy work, especially if he lets its defects be known at the same time; but to pretend that this result proceeds entirely from the material itself appears to me to be unreasonable, because often the want of success is occasioned by the imperfect organic structure of the tooth itself and by the persistence of the destructive causes. In fact, if we consider how many decayed teeth are perfectly, and for many years, preserved with simple gold, tin, and amalgam fillings we may conclude that gold, tin, and some amalgams, those that remain longest unaltered in cavities, and which are not easily injured by attrition, are the best substances for fillings, to which want of success must not be attributed because failures sometimes occur. But, from what then comes these failures? To adequately reply to this question it is first necessary to examine the source of dental caries, reflect over the causes, and see if really the defect ought to be attributed to the fault of the substance, or rather to the bad structure of the tooth itself, or to particular conditions of the dental tissues, to persistence of the deleterious causes, or, finally, to the imperfect manner of applying the remedy, or the injudicious choice of the substance indicated by the circumstances of the case.

I do not, certainly, write for those who, completely devoid of elementary notions of Dental histology, still think that dental caries is a softening, an ulceration, a real carious progression, from inflammation or congestion of the vessels of the dentinal tissues, as occurs in internal ostitis,* but I firmly believe that the teeth, although placed in the lowest grade of nosology, neither ought to be, nor can they be, held as inert matter, totally deprived of the organic phenomena of living beings, as probably the most part of those Dentists believe who exercise their speciality mechanically.

* As in past times Hunter, Cuvier, Fox, Bell, Newman, Hertz and others believed.

The teeth, classified in the order of productions* subjected, as they are, to physical and chemical influences, in the midst of numberless reactions which are developed in the mouth, may present an assemblage of weaknesses of a strange nature, by reason of the speciality of their character, the most frequent of which is precisely that which, even to-day, is improperly called Dental caries. I say, improperly, because it is a fact established perfectly by science, that the analogy between it and caries of the bones is absolutely wanting, exactly as bony and Dental tissue cannot be proved similar histologically.

The decay of teeth, as understood now, after the attentive studies of Regnard in 1827, up to that which lately has been so luminously proved by Magitôt, is a purely mechanical production from the exterior to the interior by the chemical decomposition of the tissues which go to form the body of the tooth.

When the outer membrane of Naysmyth has been removed we know that a passive disorganisation of the enamel occurs, then the calcareous elements of the bone, which often indirectly oppose a physiological resistance, because the pulp slightly stimulated in that given point secretes there a production of new elements of bone (so called secondary), which goes to obturate or obliterate those Dental canaliculi; the pulp finally becomes bared and presents acute inflammatory phenomena, terminating with its decomposition and total disappearance, after which occur the softening and complete destruction of the crown.

In all this, however, it must not be forgotten that the external force alone is insufficient to produce this effect by itself. To prove this it is necessary that the tooth should offer some congenital weakness, that the prisms of the enamel should have been in irregular position, that there should have been interstitial lacunæ, and that the organic matter should have been in more than ordinary proportions, as histology teaches us. If it were not so the deleterious elements which exceptionally are produced in the salivary fluid ought to act simultaneously not only on all the teeth, but equally upon all their surfaces. As it is with the greatest difficulty a case is met where all the teeth soften and

* Although from 1838 by Goodsir, and later by Nathalis Guillot, the Dental follicle was considered as a consequence or production of the tegumental system, that is, as a papilla developed in a fold of the mucous membrane, a production of the organism, such as hair, nail, &c., still, until the discovery of Kölliker of the epithelium coating, the greatest confusion reigned; it was from that discovery that the researches which followed established the special nature of the teeth as being entirely independent of the bones which serve as their basis.

disappear equally, yet in the course of an inflammatory disease and more especially in rickets, in consumption, in obstinate syphilis, in ileo-typhus, and in all those cases in which the saliva gives a constant strong acid reaction, so necessarily we must infer that the alteration of the liquids of the mouth or the bad structure of the teeth cannot ever alone produce Dental caries.

If now we consider a tooth of very weak structure, the material organisation of which passes 15 or 20 per cent., at the slightest cause of decomposition a progressive alteration will commence on the most vulnerable point.* If this be arrested with rationally used measures, and the cavity filled even with the most perfect filling that we can imagine, this filling will not certainly *cure completely* the tooth, which along the margins of it, on account of its imperfect structure and by its new solution of continuity, will be equally exposed to the same causes, which continuing to do their work of destruction, from the external to the internal, around the substance used for filling, will end by its being rendered useless and by falling completely away from the place it occupied.

That this undoubtedly is true is proved by experience, so far as I have seen in fifteen years of practice. All those teeth which I have had occasion to treat which presented a compact structure, rich in inorganic materials, hard, strong under the excavator—all these, which by some solution of continuity, either acquired or congenital, of the cuticle, or from any other defective organisation of the enamel, had suffered in some point a chemical decomposition, have been by me indifferently fitted with gold, tin, amalgam, or cement, according to the place, or facility, or by my choice, without the filling having suffered in any way, or in any case being altered, even after a very long period of time.

Only a few days ago I had occasion to observe a case in point in one of my friends, Signor Giovanni Caratozzolo, of Girgenti, who was passing through Palermo. In 1867 I filled four teeth with different substances; one great cavity especially in the second left large inferior molar was fitted on its masticating surface with an amalgam of silver and tin, and the second right inferior bicuspid was filled on its buccal surface with cement. On observing attentively these four fillings after twelve years, they appeared as if they had

* Dr. Cherwin, in the Congress of Associations in General for the Advancement of Science (Section, Anthropology), held in the last few years, argued that composition of the soil and the conditions of the climate of the countries have a direct influence upon the structure of the teeth, and hence upon the production of Dental caries.

been put in the day before, the amalgam being only a little worn down by its large exposed triturating surface. I should add that Signor Caratozzolo, who is thirty-five years old, enjoys perfect health and his teeth would break steel.

For another friend, Signor Ignagio Drago, a young man of about the same age, of a nervous, bilious, lymphatic, and hypochondriacal temperament, I temporarily filled, in 1874, with gutta percha the first right inferior large molar. He, feeling well, would not allow the filling to be removed, and at present, he being in Palermo, has the tooth in the same condition with the filling hard and firm.

And here I may remark that gutta percha is the worst of substances for filling teeth, and its duration in this case must be attributed to the cessation of the deleterious causes of decay in his mouth, precisely as sometimes we see the spontaneous recovery which occurs in decayed teeth which have not been treated at all.

On the other hand, however, in many other cases I have applied gold amalgams, cement, with the greatest exactitude, in teeth of weak structure, and after a year or two have had to begin all over again. For one of my patients, Signor C. Pressi, I conscientiously filled a second left inferior molar three times in three different points on the crown itself; they afterwards decayed, and after four or five months I was obliged to renew the fillings on account of their giving way from the progress of decay, until at last becoming united into one cavity the whole crown broke away. In this case I tried many different materials for filling. I commenced with gold and finished with amalgam (Arrington's). As a prophylactic remedy I prescribed frictions and gargles with alkaline substances, which failed likewise; all was useless. The patient suffered from a serious gastric affection; he had lost many teeth from decay. His saliva was thick and sticky, of acid reaction, and although his teeth appeared of a good and vigorous structure, of a deep yellow colour, they were obliged to succumb to the intensely destructive process.

For many others I have made excellent fillings with all the care and precautions possible, leaving me with much satisfaction for the moment, and then I have had to lament their want of success. This has always been the case, as I have already remarked, in those soft, caseous teeth, of an azure colour, or milky white, in cachectic and scrofulous individuals. In these one can retard the process a little, in my opinion, but not totally prevent the catastrophe of the loss of the teeth when much decayed. To better their constitution by general means, using alkaline applications to

combat the pathogenetical conditions of the disease, is the surest way to succeed, rather than to exclusively count on the isolation produced by a stopping of whatever merit, even that of the future. Once the deleterious conditions which alter the buccal fluids are modified and reduced to a normal state of a slight alkaline reaction, one is surer to arrest indefinitely, with a good filling indicated by the circumstances, this chemical alteration of the tooth substance, that at present, with much confusion, is called caries by persons who have studied only general pathology.

In other cases, and more frequently, such failures are more to be attributable to the inconsiderate choice of the material and the bad manner of operating rather than to the bad quality of the substance for filling. As, for instance, if in a large masticating surface of a first or second large molar, the Dentist inserts a cement, any white filling whatever, or a bad amalgam, he would soon see the wearing away of it by the mastication on its surface, and then leave uncovered the margins of the cavity, after which sometimes proceeds the consecutive progress of its destruction.

In such cases the only substances in which one can have confidence in attaining full success, in my idea, are gold and tin in chemically pure sheets. In the lateral surfaces of the molars the choice is indifferent. As a general rule gold and tin are to be preferred for teeth of a compact tissue, and amalgam and cements of the best quality for soft and friable teeth. With regard to the incisors I prefer always for artistic reasons, and for the colour, plastic fillings, and now more than ever, the excellent cements of Fletcher.

Another cause of failure, which is often attributed to the materials used for filling, is the imperfect manner of performing the operation. I have seen practitioners of high reputation insert fillings in cavities which had been scarcely scraped or drilled into, and bury under the filling all the softened and disorganised mass of the dentine. I do not speak of those who habitually make their fillings, not only without well drying the cavity, but absolutely under a flow of saliva, and this with the pretext that patients are intolerant and will not suffer any annoyance of any kind. Such operators, as we may well imagine, are far from attributing to themselves the fault of the want of success of their fillings, and then they cry out inexorably against the most innocent substances, which are, I repeat, gold (adhesive or soft, in foil or in cylinders, or under whatever different form it comes to us), tin-foil, the amalgam made according to the valuable formula of E. S. Chase, Fletcher's

cement, to which every one must, some time or another, really make a bow of respect.

Reflecting over all this, it is indisputable that the failure of this or that material which may have been used for the filling of the tooth may depend upon the imperfect manner of operating. Many other times, however, it may depend upon the nature of the Dental alterations and the continuance of the causes which give rise to them—those for which the nature of the material for filling has no importance. It would, however, rather be desirable that the houses for furnishing Dental materials, accustomed to gain so much by substituting all these materials one for another, should think how to improve their quality and not attribute to them those failures which arise from very different causes.—(From the ‘Odontologia.’)

THE BRITISH DENTAL ASSOCIATION VERSUS THE CHEMISTS.

THE following correspondence has appeared in the ‘Chemist and Druggist Journal,’ and the ‘Pharmaceutical Journal:’

We have received the following from Mr. J. J. Musgrave, Surgeon-Dentist, 1, St. Domingo Vale, Liverpool, who thinks it important we should make known these facts to chemists in this issue, as the Dental Register will be out soon :

HOW CAN A CHEMIST’S ASSISTANT REGISTER HIMSELF AS
“A DENTIST IN BONÂ-FIDE PRACTICE?”

The above question has been asked me during the last few months by numerous friends in both the medical and Dental professions; in consequence I have been at considerable trouble to ascertain if any chemist’s assistants had really registered as such, and find that they have. I have also had chemists pointed out to me who have never done any Dental operation beyond “extracting a tooth,” and have probably never seen inside a Dental laboratory, and know absolutely nothing of “Dentistry,” who have registered as being in *bonâ-fide* practice as Dentists. Now, the Act never contemplated registration by any persons other than those *known* as being engaged in Dentistry, either separately or in conjunction with pharmacy or surgery. It does not follow that because a chemist placed an engraved plate on his door with the word “Dentist” upon it during the time the Act was passing that the law will recognise him as a Dentist. A Dentist, in the eye of the law, must have been a person engaged in every branch of the Dental art—*i. e.* able to

undertake any operation or do any mechanical work that may be required for the mouth by the public.

The various Dental associations *formed for the express purpose of sifting out and prosecuting fraudulent registrations*, have an agent in every town now busily engaged in compiling a list of such registrations. Section 35 of the Dental Act, 1878, provides for such by fine and imprisonment on conviction.

Many think that because they have filled up the declaration paper sent by the registrar and received from him the Dental Registration Certificate that they are now safe; *such, however, will not be the case* without legal evidence of qualification and fitness, which will soon be demanded by the British Dental Association.

No chemist regularly engaged in *bonâ-fide* practice as a Dentist need fear any annoyance or subsequent trouble. Such, however, as cannot bear the strictest investigation as being *bonâ fide* in practice at the passing of the Act had better at once, and before the publication of the registrar, apply to Mr. Miller and have their names erased, to prevent "Section 35" being carried into effect.

The editor of the 'Chemist and Druggist' remarks on this letter as follows:

[We print the above merely to show the animus of a certain section of the Dentists now they have got their Act. We assert with confidence that any chemist and druggist or chemists' assistant who had been up to the time of the passing of the Act in the habit of extracting teeth when asked to do so, was fully and legally entitled to registration as a Dentist if he chose to ask for and to pay for such registration. We are certain that the promoters of the Bill intended this to be so, at any rate in regard to chemists and druggists in business, for the position of chemists as mere tooth-drawers in most instances was fully explained to Sir John Lubbock by the President of the Chemists and Druggists' Association when a deputation from that body waited upon him. But it is not a question of intention, it is a question of plain and straightforward legal language. Among persons entitled to registration is "Any person who is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or *Dental Surgery*, either separately or in conjunction with the practice of medicine, surgery, or pharmacy." "A Dentist in the eye of the law," says our correspondent, "must have been a person engaged in every branch of the Dental art." This remark looks authoritative, but there is not the shadow of foundation for it.

Chemists never asked for the Act, but they had certain rights which legislators, if not Dentists, were bound to respect. The agents of the Dental Association may amuse themselves as they please, but they will find that Section 35 of the Act will be in the hands of intelligent judges, not of an interested trade union which is discontented with the bargain which it has itself made.—ED. C. & D.]

REGISTERED DENTAL PRACTITIONERS.—Sir,—I was utterly astonished upon reading Mr. J. J. Musgrave's letter in your last issue. Could anything be wider of the mark? The act states "Dentistry" or "Dental surgery." That is, "Dentistry" (mechanical) or "Dentistry" (surgical), either the one or the other, "separately" or in connection with medicine or pharmacy.

Our friend's lucid description of a Dentist fails the further deduction, that a "Dentist" (though eminently qualified or otherwise) shall not be compelled to do both if he chooses otherwise. If words mean anything at all, in the sentence Dentistry or Dental surgery, in the eyes of the law, common sense, or a Dental surgeon, I think it must mean either the one or the other, or both. If it is not optional I am in the dark. A medical man may be a M.D., M.R.C.S., and L.S.A., I am not aware the eye of the law compels him to practise any one branch for which he is "registered" at the instigation of any person, whether he chooses or not.

Does not Mr. Musgrave's letter savour too much of what we call in Sheffield Broadheadism? By what authority can the British Dental Association, or any other association, "demand legal evidence of fitness?" Who gave them that authority? The Dental Act does not. Intimidation, based upon such a foundation, can only find its reward in the treatment which doubtless such a communication will receive.—G. ELLINOR, Ph.C., Dental Surgeon, &c., Sheffield, Sept. 16, 1879.

Sir,—It is refreshing but not particularly instructive to read the letter of Mr. J. J. Musgrave under the above heading in your last issue. Mr. Musgrave evidently views with a jaundiced eye that portion of the Dentists Act which permits chemists who were engaged in Dentistry to register as such. Perhaps it may be well, however, to remind Mr. Musgrave that, however powerful a brief he may hold from his "numerous friends in both the Dental and medical profession," it is—happily for those to whom he offers such disinterested advice—only a brief, and not the dictum of either judge or jury in the matter.

The new Dental associations have a broad field of useful-

ness before them, and it will be to be regretted if they initiate their existence by stirring up strife between themselves as representing the Dentist *pur et simple* and those associations who would represent the Dentist "in conjunction with the practice of pharmacy."—IMPERTURBED.

Sir,—What is the object of your correspondent J. J. Musgrave in writing the letter which appeared in last week's (Pharmaceutical) Journal? Does he wish to prevent chemists' assistants from registering as Dentists?

It is a well-known and indubitable fact that there are hundreds of chemists, their managers and assistants, who practise Dentistry, that is, who extract, scale, stop, &c., as ably as any professional Dentist can do, who under the late state of the law could not be hindered or prevented from so practising; and I take it that the new Act has been passed to give such practitioners a legal status, and to prevent from so practising unqualified men, mere empirics and charlatans.

Another fact equally well known with the above, is that in country places throughout the length and breadth of the land, there are uneducated and vulgar men who take first to "cow-doctoring" and farriery, but who are equally ready at any time to bleed a horse or cow, or to cut a whitlow or extract a tooth for a human patient; and these are the men, I apprehend, who were intended to be, and who will be, prevented by the new Registration Act from practising Dentistry.

If a chemist's assistant were able to perform, in a proper manner, all the operations of Dental surgery, he would not need a new Act of Parliament to enable him to register, and so give him a legal position; nor would he long stand behind a chemist's counter. He would be, or soon could be, in a position to have his abilities fully recognised by the College of Dental Surgeons and to practise as a full-blown Dentist.—MANAGER.

Sir,—In your last issue there appeared a letter on this subject by Mr. J. J. Musgrave in which he states that a Dentist in the eye of the law must have been a person engaged in every branch of the Dental art, *i.e.* able to undertake any operation and do any mechanical work that may be required for the mouth by the public.

He then goes on to say that any chemists who cannot show legal evidence of such qualification and fitness had better apply to Mr. Miller, to have their names erased from the register to prevent Sect. 35 of the Act being carried

into effect, as it provides for such fraudulent registrations by fine and imprisonment.

About the 27th of last December I wrote to Mr. Miller asking him if it was necessary for any person engaged in extracting teeth to be registered. I expected a plain answer to a plain question. On the 30th of December I received a letter containing a form of declaration and an intimation that December 31st was the last day on which I could be registered for the sum of £2. I sent the money and was registered as a Dentist, as I concluded it was necessary to do so in order to continue to extract teeth. Now, I wish to know, if on applying to Mr. Miller to erase my name from the register, he will return the £2; if not, could an action stand for obtaining money under false pretences? Perhaps Mr. Musgrave can inform me; if not, I shall set the whole affair down as a big swindle.—LOWER MOLAR.

HOW CAN A CHEMIST'S ASSISTANT REGISTER HIMSELF AS "A DENTIST IN BONÂ-FIDE PRACTICE?"—Sir,—Under the above heading, in your last week's issue, Mr. Musgrave says, "I have also had chemists pointed out to me who have never done any Dental operation beyond extracting a tooth, &c., who have registered as being in *bonâ-fide* practice as Dentists." Now, sir, if extracting a tooth is not practising as a Dentist, I should like to know what it is? Probably a great many chemists have registered whose business engagements will not permit them to do anything more than simple tooth extraction, and have thereby registered as a precaution against a possible prosecution for breaking the law. The registration of assistants, I should imagine, was illegal, because they are not actually practising surgery and pharmacy, only acting as assistants.

The Dental Act is like the Pharmacy Act; it must of necessity recognise a certain class of men, who have no right, so far as their qualifications are concerned, to be registered. As a natural consequence, it will be some years hence before these Acts have the beneficial effect intended.—F. W. S.

Dental News and Critical Reports.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

EXTRAORDINARY MEETING, MAY 12TH, 1879.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding meeting (March) were read and confirmed.

The new President, Mr. Woodhouse, delivered the following admirable address, this being the first occasion on which he had taken the Chair:

GENTLEMEN,—The position in which I am placed this evening is one that but quite recently I had not the least idea of being called on to occupy, but the greatest pleasures are often those which come most unexpectedly, and I hope that my misgivings on taking office may be dispelled, but I certainly cannot gain confidence from the maxim of the "great Dr. Johnson" when he says, "Never be afraid to think yourself fit for anything for which your friends may think you fit."

Although unexpected, none the less do I appreciate the honour that you have, I feel, conferred upon me in my election as President of the Dental Students' Society, and of which Society I had the pleasure of becoming a member after its *renaissance* in 1871.

I trust that I may be able to continue the good work done by my predecessors in this chair, and that we may enjoy a free interchange of ideas on the subjects brought before us for consideration.

A perusal of the work of the past year will, I feel sure, afford the best evidence and argument of the uses of our Society.

Other than in the operating or lecture room, there are not many opportunities for meeting together, and the two or three years in which we are associated in our course of Dental studies have soon passed away, and after this those who continue to practise in London or other great centres may see one another more frequently, whilst the majority are scattered throughout the length and breadth of the kingdom, or I should be equally correct in saying British Empire, for amongst the better educated in all parts of the world can now be found those who, in this hospital, first

learned their profession, and will therefore probably make the majority of their early professional acquaintances within its walls.

By means of patients, in recommending them to one another, as may be suitable to their convenience or change of residence, we can frequently hear, and think of, old friends to whom we can recommend our patients with confidence, maintaining, thereby, a system of professional goodwill.

A society of this kind may be a confessional in which to make known our experiences of success and failure in treatment of difficult cases.

In no department of Dentistry at the present time can the immense improvements and changes brought about by the Dental Reform movement be underrated; they will afford an additional incentive, if any such were ever needed, to the student of Dentistry, knowing that he now receives State recognition for his painstaking labours, and in conducting which it can most truly be said that practice alone makes perfect, and for making the result of which known to the public but one form of advertising alone is permitted, namely, the successful operations performed on our patients, who should, if possible, be brought to regard the Dentist as a guardian angel rather than the forceps hero of yore.

There appears to me a special satisfaction to be derived in the pursuit of a branch of surgery in which the results are so immediate and definite as in our own specialty of Dentistry.

Next to the organs of sight and hearing, those of taste and their allied organs of mastication may, I think, venture to contest a place in scale of importance.

It needs but little practice in the operating room to see what an amount of suffering can be relieved and deformities remedied, and after all skill and patience has been exhausted in rendering effective the natural organs of mastication, efficient substitutes can be supplied, so that from first to last the Dentist can be an endless source of comfort to his patients.

We have constant opportunities for noticing the extent to which the health is influenced by dental lesions, which are too often overlooked by the general practitioner of medicine.

We are expected, and very rightly, to have a general acquaintance with the ordinary laws of therapeutics. If a proportional knowledge of the Dental organs was required of the more constant student of medicine and surgery, I am sure he would transfer many of his most obstinate dyspeptic cases to the only source of real relief, and that is to be found at the hands of his fellow practitioner, the Dentist, without

in vain testing the resources and remedies mentioned within and without that voluminous panacea of cosmopolitan ailments, the British Pharmacopœia, and many of which remedies cannot, I feel sure, but be more unpleasant than the experience that would be undergone in effecting a more lasting cure beneath the care of a humane Dentist.

From the foregoing I should be sorry in any way to convey the idea of our province commencing where that of the medical practitioner is obliged to terminate.

In the practice of a special branch, such as our own, there must ever be a disputable borderland, and success must lie in each neighbour having carefully surveyed and become acquainted with this disputed territory, and perfect success as a Dental practitioner in working in concert with the skilled surgeon and discerning physician.

One of the most frequent sources of failure and lack of success to those who commence the practice of Dentistry—and it has, I am sure, too often been done as a *dernier ressort*, and from a misconception of its true requirements—is a lack of mechanical adaptability, without a certain amount of which (and always possessing the more the better) no one can ever expect to become a fully competent Dental surgeon.

There are, I believe, in a given number of men chosen at random, more who could be made fairly successful doctors than fairly good Dentists, so much of mechanism is required in the latter that those alone who have a taste for it should undergo what must, under other circumstances, be to them sheer drudgery, and without any brilliant prospect to compensate their toil.

The possession of a good family living has often tempted parents to educate a son for the Church, without his being any better fitted to fill such an important office than the son of many a successful Dentist has been to be placed in his father's practice, and who, not possessing the necessary natural ability, has often succeeded in losing a good practice in less months than it has taken years for his father to make it.

Compared with twenty or five-and-twenty years ago we must live quite in the luxurious days of Dentistry, and very much is due to the subtle brains and lissom fingers of our Transatlantic cousins, who, if they do rather take the lead in inventive genius, cannot dispute that we are decidedly not backward in applying their inventions in our practice.

But probably even greater advance has been made in our knowledge of medicinal appliances for the relief of our

patients than in the mechanical arrangements to which I have referred.

Notably, the introduction of carbolic, tannic, salicylic, and arsenious acids, the first enabling us to adopt a conservative treatment of the dental pulp where, formerly, the loss of the nerve, or, very frequently, of the whole tooth, would have been necessary, and even if it be now necessary to destroy the nerve it can be done with a minimum of suffering by means of the arsenious acid.

Nor can we under-estimate the invaluable aid of anæsthetics, especially the nitrous oxide gas, enabling us to perform the severest of our brief operations without, I trust, creating that thrill of horror from which the name of the Dentist, under the old *régime*, could not possibly be disassociated, at all events in the juvenile mind.

There appears to be an increasing demand for Dentists, nor has the number been augmented, I think, as much as it is generally supposed, at all events in London, where, twenty years ago, there were stated to be 400, the Directory at the present time shows rather under 500, not, I should say, more than an equivalent proportion to the increased population during that time of the metropolis. Not only has the proportion of the members of our profession thus remained much the same relatively to the population during the last twenty years, but the need of their aid is more recognised by the people generally. Indeed, I fear we must say with truth that the teeth of the present generation are more defective than those of their parents, and hence the work of a Dentist is rather increased than diminished.

It is interesting, physiologically, to trace the cause of the greater prevalence of decay in children's teeth, and it is a subject on which, I think, information is much wanted, and one which would repay careful investigation by members of this Society, in ascertaining and tabulating histories of cases, seeing if children have lived under less favorable hygienic conditions than did their parents, if caries can be attributable to ill health or medicinal remedies, whether all members of family suffer alike, or if sickness or intemperance of parents has had any apparent influence in dentition of different children.

Parents are also becoming more alive to the vast importance of constant supervision being exercised from the commencement of teething by their children, and in regard to the teeth seeing truth in the maxim, "A stitch in time will oft save nine."

It is encouraging to feel that if we can get our patients successfully to tide over the earlier years of childhood, the

difficulty of combating the ravages of decay lessens with additional years, so if we secure well-regulated dentures at eighteen or twenty, our patients will, in all probability, have an average lifetime of comfort wherein to reap the fruits of their early sufferings, very frequently only undergone in obedience to apparently harsh parental discipline.

True it is, after all, that the greatest and most enduring happiness is experienced in beholding pleasure conferred on others; with us this can often only be achieved by constant self-sacrifice and closest attention to minute details; but that to advance the interest of our fellow-men, and to press onwards in the van of progress, and having as his motto *Crescit eundo*, will, I feel sure, be carefully borne in the mind of each of those who, in his earlier years of professional life, has enrolled himself a member of the Dental Students' Society.

Mr. E. Bower was unanimously elected a member of the Society.

Messrs. Amoores, Harris, and Matthews were proposed as members, to be balloted for at the next meeting.

Mr. ROSE exhibited the model of an upper jaw containing three supernumerary teeth, and that of another in which one of the central incisors was projecting horizontally forwards.

Mr. ROBINSON brought forward the models of two cases of interest. In the first, that of a patient, æt. 17, there were present in the upper jaw all the deciduous teeth, except the central incisors and the first permanent molars. In the lower jaw the first and second temporary, and the first and second permanent, molars were all present. In the second case, that of a boy, æt. 16, the upper jaw contained long, narrow, permanent, central, and stumpy, temporary, lateral incisors, supernumeraries taking the place of the canines, one right bicuspid, and the first permanent molars. In the lower jaw, the left temporary incisors were present; also the temporary and permanent canines, second temporary, and first permanent, molars on both sides, and on the right side one bicuspid, a canine, and no incisors.

Mr. DEWES exhibited a number of molars of peculiarly awkward form for extracting, and mentioned a method pursued for the removal of one of them: the anterior fang was sawn through at the neck, the crown and posterior fang removed, and then the anterior separately.

Mr. M. DAVIS showed the upper molar of a baboon (species unknown), and two misshapen wisdom teeth, whose form presented great difficulties to attempt at removal.

Mr. STUCK described, and showed models of, the jaws of

a girl of sixteen, in whom only the four first molars and the central incisors of the permanent set were erupted. The laterals were just appearing in the lower jaw.

Mr. READ did not think the plan of extraction described by Mr. Dewes a very desirable one to employ, even in an emergency.

At the request of the President a paper was read by Mr. M. DAVIS on "Hæmorrhage."*

In the discussion elicited by the paper, the President and Messrs. Harding, Maggs, Magor, Read, and Robinson took part.

A hearty vote of thanks was unanimously accorded to Mr. Davis for his able and interesting paper.

Miscellanea.

DENTISTRY IN BOSNIA.—An ordinance has been issued by the Government of Bosnia prescribing the conditions under which persons may practise Dentistry in Bosnia and Herzegovina.

DENTITION AS A CAUSE OF DIARRHŒA.—Lancing the gums is here especially indicated, and it is far better to err in lancing them too soon than to fail to do so when necessary. A child having from ten to twelve stools a day has often been relieved by lancing the gums, without any other treatment. It is in these cases that the bromides prove so effectual. Of a mixture consisting of Sod. Brom. ʒss., Mucil. Acaciæ, Aquæ, āā. ad ʒij., a drachm may be given every three hours to a child between six months and a year. The bromide diminishes the reflex disturbance caused by the dentition, and the mucilage is soothing to the irritated intestinal membrane. —*Med. Times and Gazette*, Sep. 20th, 1879.

JURY lists are now exhibited on church and chapel doors. Persons who can claim exemption as Dentists, should at once see if their names have been included, if so they must notify the overseer within a certain period to avoid being called upon to act.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—Examinations for the Dental diploma of this College will be

* Want of space compels us to postpone the publication of this paper to our next issue.

held on October 21st, 1879; January 26th, 1880; March 29th, 1880; April 20th, 1880; July 20th, 1880.

Dentists who were in practice before August 1st, 1878, or who had commenced their apprenticeship before August 1st, 1875, are eligible for examination *sine curriculo*. All applications must be made to the Secretary, Mr. Joseph Bell.

FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.—The following will be the periods of the next four examinations:—October 21st, 1879; January 20th, 1880; April 20th, 1880; July 13th, 1880.

Dentists in practice before August 1st, 1878, who are registered are eligible for examination *sine curriculo*. Applications must be made to Alexander Duncan, B.A., Secretary.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The next examination for the Dental diploma will be held on October 20th. Candidates *sine curriculo* must have been engaged in the practice of Dentistry for at least five years, and have refrained from advertising for at least two years previously.

APPOINTMENTS.

MR. LÉON JABLOUSKI PLATT, L.D.S. Edin., to be Consulting Dental Surgeon to the Stirling Royal Infirmary.

W. E. MARGETSON, M.R.C.S., L.D.S. Eng., to be Honorary Dental Surgeon to the Dewsbury and District General Infirmary.

FRANCIS JOHN VANDERPANT, L.D.S., R.C.S.I., M.O.S., to be Honorary Dental Surgeon to the Children's Branch of the Metropolitan Convalescent Institution, Kingston Hill.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—By some mischance, the corrected copy of proof of the short-hand writer's notes, detailing the part I took at the Exeter Meeting, failed to attract the attention of the printer; I must ask those who are interested in the questions discussed, to interpret the report so far as it relates to myself

by the general context, rather than by the strict meaning of the individual phrases reported.

Yours, &c.,

JOHN TOMES.

To the Editor of the 'British Journal of Dental Science.'

DEAR SIR,—Permit me to state through the medium of your journal, that I have received a communication from the President of the Royal College of Surgeons, Dublin (E. D. Mapother, Esq.), and he assures me that a list of the Dental Licentiates of his college will be *accurately* and *punctually* published in future.

Yours, &c.,

FRANK A. HUET.

Manchester.

REGISTRATION OF CHEMISTS' ASSISTANTS AS BONÂ-FIDE DENTISTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Having taken considerable trouble during the last few months to ascertain if any chemists' assistants had really registered as being in "*bonâ-fide*" practice as Dentists, I find that a large number of this class, with no claim on "Dentistry" beyond having occasionally extracted a tooth, have thus fraudulently registered themselves, in hopes, no doubt, of being able to obtain subsequently a few lessons in impression taking, and fitting in artificial teeth, stopping, &c., from one of those "pests of the profession," who have advertised from time to time in the journals devoted to pharmacy, as being willing to teach chemists the art of Dentistry in a very short time, for the consideration of a few pounds and the privilege of executing the mechanical work taken in hand by these would-be Dentists. Now, I fail to see what right a man who advertises himself as a "locum tenens," or chemists' temporary assistant, has on the Dental Register. That there are many such I know for a fact through the kindness of several chemists that I am personally acquainted with, and every week there are drug assistants advertising for situations, who describe themselves as registered Dentists or as possessing a "Dental Certificate." Now, the footnote on the Dental Registration Certificate requests immediate notice of changes in address, or by Sections 3 and 12 of Act, 1878, the registration is null and void, consequently, how can a chemist's assistant, continually shifting from town to town, and with no settled place of business, be allowed to remain on the Dentists' Register.

I have been greatly surprised in visiting professional friends in other towns to see the apathy shown by them as

to the welfare of their profession, by their letting outsiders register without protest, and think it the duty of every legitimate practitioner to give all the assistance in his power to help the associations in their work of sifting out fraudulent registrations.

Yours, &c.,

J. J. MUSGRAVE.

Everton, Liverpool.

A PLEA FOR ADVERTISING.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As an outsider, that is to say, a chemist who extracts teeth, and occasionally puts in an artificial set, and does all this without possessing a diploma, and, moreover, adds to his manifold sins and iniquities by inserting sometime an advertisement in the local papers, I say, coming as these lines do from such an object of scorn to all true believers, I do not expect them to have much weight with the great and shining lights who, month by month illuminate the pages of your journal with their not always very grammatical effusions.

But, for once I cannot help emerging from my obscurity to address a word to those gentlemen who express such virtuous and scornful indignation at the doings of my fraternity. What, I would ask them, would have been the position occupied by the Dental profession at this moment but for the publicity which has in times past been given, and the consequent attention which has been drawn to the subject, by the efforts of advertising Dentists?

My recollection extends over a period of nearly forty years, and I can remember well the time when a person who wore artificial teeth was looked on as a sort of zoological curiosity, and the mere fact was a thing to be spoken of only with bated breath. While it was supposed (and not without reason) that in order to aspire to a set of artificial teeth, there was required on the part of the aspirant a length of purse quite out of the question with ordinary mortals. Now it is almost the exception to meet with a household wherein one of the members, at least, does not carry in his mouth a specimen of the Dentist's art. To say nothing about the upper ten thousand—it is an undisputed fact that tradesmen's and farmer's daughters and wives would, generally, as soon think of going out without their bonnets as appearing in public with a gap in their mouths; while domestic servants save up their wages to have missing incisors replaced.

Now, what has worked this change, and so wonderfully popularised that which was once looked on as an expensive luxury, quite beyond the reach of the multitude? Nothing in the world but advertising, in my opinion.

I do not wish to say one word in favour of dishonest advertisements, but I am sure that there are thousands now deriving benefit from the use of artificial teeth who would never have had them at all, and would, moreover, probably have never heard that there were such things to be had but for the advertisements. If they have not in every case been directly influenced by an advertisement themselves, they have at least been recommended to visit the Dentist by a friend who wears artificial teeth, which *he* was induced to try through reading one.

Had advertising never been resorted to our Dental manufacturers, instead of turning out their mineral teeth by the bushel and their various appliances by the ton, would still be plodding on in a very small way indeed. Dentistry would have been almost an occult art, practised by and taken advantage of by the select few; while its professors would have been looked on much in the same light by which people are accustomed to view professors of ventriloquism and sleight of hand. There would have been no stimulus to invention in the absence of a demand, and probably those few who practised the art would have been driven to confine their operations to bone work and natural teeth for want of better material.

Nevertheless, I can well imagine one of our "virtuous indignation" men, who has been fleecing his patients at a high price per set, finding it very galling to have another man in the next street commence advertising a similar article at less than half the price. The opponents of advertising are actuated evidently by motives which to an unbiassed looker on are most ludicrously transparent. But it is impossible that practitioners ensconced in a snug practice with a lucrative connection attached thereto can have any but the most disinterested motives in wishing to debar a young beginner from the use of advertisements. Old-established grocers and drapers would doubtless for selfish motives like to have such a restriction placed on young pushing members of their trades; but let him be *anathema maranatha* who would dare to impute such feelings to members of the Dental *profession*!!

In conclusion, I would mention one great point of difference between the case of a medical man advertising and that of a Dentist, which appears to have escaped your correspondents. The former has no occasion to do so, while to the latter it is, in many cases, an absolute necessity. Every man, when illness occurs in his family, sends for a doctor as a matter of course, because his father did so before him if for no better reason; in addition to which the law is com-

pulsory, so that if a man allows a member of his family to die without having had medical attendance, he renders himself liable to a penalty, even though all the medical skill in the world could not have averted the event. But I am not aware that there is any law to compel a man to have his teeth replaced by artificial ones, however bad they may be, or even if he has lost them altogether. In short, a Dentist is not generally looked on as a necessary hanger on of every family as a doctor is, and *the great mass* of people will not be likely to patronise him at all, unless he attracts attention to himself by advertisements or otherwise. Consequently, the more advertising there is the more Dental work there will be done on the whole. If a doctor gets a patient by advertising he must necessarily have deprived some other *confrère* of a patient. Not so with a Dentist. If he, by advertising, gets an extra patient the probability is that the person in question would never have visited a Dentist at all but for seeing his advertisement. Herein, I think, lies a vast difference, and a very cogent reason why, although it may be wrong for a medical man, it may be quite right for a Dentist to advertise.

I am, &c.,

J. C. V.

As we profess that our columns are open to all parties we cannot refuse insertion to the above, as it happens to be more temperately written than most of these effusions are; but we warn our readers that we shall not admit any more such letters, as we also profess to be a professional journal, and not a trade paper. As an antidote we subjoin a letter addressed to a Birmingham paper.

To the Editor of the 'Dart.'

SIR,—In your "Notes" of the 9th inst. you expressed your opinion that there was "a good deal of nonsensical conservatism about the horror of advertising on the part of members of the medical profession." I very much regret to hear you say so, and cannot but think that there is a good deal of nonsensical radicalism about your remarks. To the honour of the medical profession it has long set its face against advertising, which it looks upon as an undignified *modus operandi* of making one's self known. Why is this so? Simply because it knows that only the worst members of the profession resort to advertising to "puff" those qualities which they pretend to possess, but do not. Especially is advertising adopted by empirics of the Dental profession, who know that the secret of success lies in issuing

advertisements purposely designed to deceive the public. Were it not for the medium of advertising, I am certain that the profession would soon be weeded of the "quacks" that now disgrace it; for they would soon be brought to their own level. Judge of the question in this way:—An advertising Dentist depends upon his advertisements to bring him patients, and so can afford to be indifferent to bestowing proper care and attention upon them, well knowing that his lying newspaper display will bring him others, if by his gross neglect and incompetence he loses a few. He cares not whether he pleases or otherwise, so long as he gets the £. s. d. On the other hand, a non-advertising Dentist depends upon his own professional skill and ability, coupled with a gentlemanly behaviour, to bring him patients. With him recommendation is everything, to secure which he must give satisfaction to his patients, so that they may recommend their friends. There are in our town men who do not advertise in newspapers, drive showy horses, wear broad hats or white chokers, write letters to newspapers, get drunk, or preach total abstinence, and yet they exist and are, I believe, respected by friends and patients. Question the patients of advertising and non-advertising Dentists as to the satisfaction they have received, and you will get at the true merit of the case. You urge that parsons and lawyers advertise; excuse me, they do not. They may be advertised by newspaper reports, but they do not advertise themselves. Can you point out an instance where clergymen undertake to preach sermons at so much each, or where a lawyer advertises his list of fees? I think not. So your comparison is absurd. You seem to think Dentists ought not to be considered members of a learned profession. Why? Allow me, sir, to inform you that you display lamentable ignorance, when you describe Dentistry as a "mechanical trade and not a profession at all," and you confirm your ignorance by prefixing the word "really" to the statement. Are you aware of the existence of the Dentists Act, wherein Dentistry is distinctly spoken of as a profession?

Unfortunately, you judge the case by the charlatans and empirics, and so misjudge the profession. In the hands of some men, such as ex-fiddlers in concert-hall bands, Jews, &c., no doubt Dentistry is lower than a mechanical trade; but in the hands of good men it is a profession, and an important branch of the medical one. For fear of laying myself open to the charge of advertising in the newspapers, I enclose my card, and remain,—A DENTIST, BUT NOT AN EMPIRIC.—*Birmingham Dart.*

To the Editor of the 'British Journal of Dental Science.'

SIR,—After reading the President's address to the Western Counties Dental Association, in your first number of the new series, or bi-monthly as we may now call it, I am happy to find the argument (or rather cause for argument) put forth in reference to gold or amalgam fillings. I think much may be said upon this subject to enlighten the 'profession,' but in my estimation I think no man of experience can ever define which of the two fillings should be used as an exclusive filling.

I myself had two inferior wisdoms and the second left inferior bicuspid filled with gold twelve years ago, they remain as good as when first filled; and nine years ago I had filled with amalgam the first and second right inferior bicuspids; these have also remained perfect.

I do not ask your readers to agree with me, for variety, they say, is the spice of life, but I think, though I have only been in the profession twelve years, that I am doing right when I say that though gold should be used when the case will permit and the patient will pay for it, that we as professional men should use our judgment; and if a tooth could be plugged more perfectly with amalgam advise it; if suitable for gold, advise it. In my own practice I use both, and must say have made some beautiful plugs with Fletcher's platinum amalgam.

Gold or amalgam are perfectly useless unless properly packed, and I think you will agree with me in saying both are to be made perfect under skilful manipulation, and that the fault is more to be found in the operator than the material.

The old maxim (patience is a virtue) should enter the mind of the operator at the time of plugging a tooth, and in nine cases out of every ten his labours will be crowned with success.

Being pleased to find the Journal doubled at the same price, allow me to remain your well wisher for its future success.

C. S. BENSTED.

Waltham New Town, Herts.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have read with great pleasure your excellent article in last month's 'British Journal of Dental Science' on the "Present Needs of the Dental Profession," or rather, in answer to it, and it has occurred to me that if this were printed in a pamphlet and placed on the tables of Dental

waiting-rooms it would afford great interest to the public generally. Although patients now, as a rule, are more enlightened as to the wiles of quacks, yet there are still many foolish people who will read the disgusting advertisements we daily see in the papers, and I have often been asked the question, "How is it some Dentists are able to make teeth so cheaply?"

I really do think something ought to be done to enlighten these ignorant or simple people, for although we see and talk so much upon these matters, we must remember that the public never come across such contributions as your Journal has so excellently given us.

Yours, &c.,

A. K. PHILLIPS.

5, Cavendish Square, W.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In describing the chair in the last issue I forgot to state that the four pillars supporting the arms and back of the chair will be *hollow*, so as to enable them to carry an iron crane, so as to swing round and support one of Rutherford's scagliola spittoons and a tumbler; the other crane to hold a little round mahogany board, so divided into compartments to carry various things the operator may require. Those cranes can be moved from the back to the front pillars to suit convenience. The back will be in halves; the upper one to slide up and down to suit the height of patient. The footboard will rise or fall in a rack to suit the legs of the patient.

I am, &c.,

"FINIS."

DENTAL ALLOY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Perhaps some of your readers who are better acquainted than I am with the workings of alloy would favour me by saying how it can be melted without being cracky. I have only just tried to melt some scraps, and find after several meltings that it is brittle and does not roll well. The information would benefit many who, I have no doubt, like myself, have tried and failed.

I am, &c.,

"AN OLD FILE."

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W., by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :

Twelve Months (post free) 14s. 0d.

 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

- C. S. LEADBETTER.—We have ourselves, as all registered Dentists can, claimed and obtained exemption from serving on a jury under the Dental Act of 1878, independently of our other claims for exemption, but we omitted to announce the fact in the papers.
- “ONE WHO HAS CONVERSED WITH THE DUPED.”—Many thanks, but we think we have had enough of this wonderful doctress. Those who wish to see an exposure of this quackery should send for the ‘St. Helen’s Newspaper,’ of Sept. 6, or the ‘Warrington Guardian.’

Communications received from Messrs. Ewen M. Tod, Dr. Field, C. G. De Lessert, T. Fletcher, J. J. Musgrave (Liverpool), “One who has conversed with the duped,” E. H. Bowne (Somerset, U.S.), Vanderpant.

BOOKS AND PAPERS RECEIVED.

‘New Brunswick Weekly Tredonian.’ ‘Gazette Odontologique.’ ‘Segundo Anuncio Anual.’ ‘Colegio Español de Dentistas.’ ‘Warrington Guardian.’ ‘Hertfordshire Express.’ ‘Le Progrès Dentaire.’ ‘Manchester Guardian.’ ‘St. Helen’s Newspaper.’

British Journal of Dental Science.

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Dental Surgery and Medicine.

ON HÆMORRHAGE.

A paper read before the Students' Society of the Dental Hospital of London, May 12th, 1879.

By M. DAVIS, Esq.

MR. PRESIDENT AND GENTLEMEN,—As the curriculum for the Dental diploma now embraces hæmorrhage, I thought it would not be out of place to select this subject for the paper which I shall now have the honour of reading before you.

The treatment of hæmorrhage is one of the most important branches of surgery, and one in which there are many obstacles to contend against, there being only a certain quantity of blood in the body, and a sudden loss of a large portion may prove fatal. The simplest operation upon the soft parts cannot be performed without a larger or smaller quantity of blood being lost, and our knowledge of the means of arresting this is wholly gained from a few experiments being performed on lower animals, such as dogs, donkeys, calves, &c., and thus, by the sacrifice of a few brute lives, many hundreds, nay thousands, of human beings are annually saved.

Hæmorrhage may be arterial and venous, or from a raw surface or mucous membrane embodying the two first named, but we will consider these causes *seriatim*.

Arterial bleeding is the most dangerous, and may be distinguished by its florid red colour, and generally issuing *per saltum*, or by jerks, which is caused by the systole of the ventricle, between which it does not leave off flowing, but issues with less force, depending upon the size of the vessel injured, but in all cases its power lessens the longer the blood flows, in consequence of the weakening of the heart's action; but still this fluid of life issues forth, every lost corpuscle bringing its owner nearer and nearer a doom inevitable, were it not that nature intervenes and does all in

her power to save life by placing the patient in the most advantageous condition for his recovery. After the loss of a great deal of blood, nature does not require the heart's action to be so strong, and therefore it gradually becomes weaker and weaker, till at last the patient falls into a state of syncope; but if she fails to assert her supremacy, the sufferer becomes livid about the lips and eyes, convulsions supervene, he sighs, gasps a few times, and then expires. This is rather the exception than the general rule, and only takes place when some of the largest arteries are injured, or an aneurism bursts, and even in these cases death does not always follow.

When the loss of blood is not sufficient to cause death, the patient becomes sick and cold, the surface of the body is pale, great restlessness and agitation, thirst, noises in the ears, and failure or complete loss of sight ensues. Nature then takes advantage of this respite to place the cut artery in circumstances most favorable for the recovery of the patient, viz. the artery draws up within its sheath, the heart being weak does not forcibly impel the blood, and allows it to clot between the cut end of the artery and the surrounding cellular tissue, and is called the "external coagulum," the middle or muscular, and the inner or epithelial coats not only contract, but retract, another clot then forms within the arterial tube called the "internal coagulum." The flow of blood gradually diminishes as the vessel becomes plugged by coagulated blood, and also, aided by its contraction, the flow ceases.

These clots, with the weakened action of the heart, the contraction and retraction of the artery, are termed natural hæmostatics (blood stoppers), but although nature does her utmost to accomplish and aid, yet such a happy result cannot be wholly relied upon, and we must therefore be prepared in all instances to apply some of the many artificial means which science has placed at our disposal for arresting hæmorrhage till adhesion can occur between the cut surfaces of the artery.

The temporary methods of arresting bleeding are—immediate pressure, which may be applied by pressing the fingertip upon the spot from whence the blood issues, and this can be kept up for any length of time required by pads of lint, or a coin of a suitable size wrapped in a cloth, and secured by a bandage. The flow of blood may also temporarily be stopped by applying pressure on the course of the vessel, and simply tying a handkerchief round the limb above the injury, then inserting a stick and twisting it till the blood ceases.

Upon this principle the original tourniquet was made, which was invented by Morel, a French surgeon, at the siege of Besançon, 1674. He having noticed how the bales of goods were secured on waggons, thought the idea might be applied to the stoppage of hæmorrhage, and thus originated one of the most valuable instruments we have in surgery.

Owing to the kindness of Mr. Hawksly, of Oxford Street, I am enabled to bring before you the principal instruments used for arresting hæmorrhage, including the various kinds of tourniquets which are invariably used in amputations and bloodless operations. Care must be taken in applying this instrument not to screw it tightly until the moment it is actually required, and then with great rapidity and force, to prevent venous congestion owing to the veins being compressed before the arterial circulation is completely arrested.

The length of time for these instruments to remain on the limb without fear of causing gangrene is varied according to some authors. Erichsen tells us that Esmarch's may be kept on with safety for one hour, whilst the others may be for three, but in all cases in applying the tourniquet age must be taken into consideration.

The more permanent methods of arresting hæmorrhage are the application of cold styptics, cautery, pressure, flexion, torsion ligature, and acupressure.

The application of cold is a valuable auxiliary in preventing the oozing of blood from a cut surface. This is effected either by the application of lint steeped in cold water, cold air, or ice.

Styptics aid the contraction of vessels, and at the same time promote the formation and solidification of the coagulum, the most powerful of these being a solution of perchloride of iron, spirits of turpentine, gallic acid, matico, alum, and nitric acid. The parts should be well cleansed from all clot and dried, then a small piece of lint should be moistened with the styptic and firmly applied.

Cautery, though seldom used now on account of being thought barbarous and inefficient, is one of the oldest methods for arresting hæmorrhage, and was much in use as late as the commencement of the eighteenth century. Red-hot knives, boiling pitch, or molten lead were applied to the bleeding surface, but now there are irons made for the purpose, and used at various heats, some surgeons preferring them at a white, while others at a black heat, but in all cases, after a short time, the eschar or slough caused by the application of the hot iron drops off, and in many instances leaves the vessel pervious to blood; this method cannot therefore be relied upon.

Pressure may be exerted in many ways, according to the situation of the wound, by a bandage, a sand-bag laid upon the bleeding parts, and plugging with lint or sponge, in the case of bleeding from a hollow cavity, as the nose, rectum, or tooth-socket, &c.

Flexion is an extremely simple method, and in cases of bleeding from the forearm, leg, &c., it will be found very effectual, and is achieved by placing a roll of lint in the flexure of the elbow or knee-joint, the limb is then bent and secured in this position.

Torsion is performed by seizing the cut end of an artery between the forceps, it is then drawn out for about half an inch, and while steadying it with another pair of forceps twist it about a dozen turns or so, according to the size of the vessel. There are a great many ways of performing this operation, which, if done satisfactorily, causes the middle and inner coats to become lacerated, they will then retract, while the external coat, being twisted into a sort of screw, in time sloughs off, and leaves an impervious end to the vessel.

Ligature, or tying, is also an ancient method, and by many considered the best. It is performed by tying wire, carbolised silk, whip-cord, gut, &c., round the artery so tightly that the middle and internal coats be completely ruptured, and upon this apparently trifling incident depends the patient's recovery.

Acupressure, first introduced by the late Sir James Simpson, of Edinburgh, in some cases supersedes ligature, that is to say, when the artery is rendered brittle by disease. The needles are inserted so as to press the artery between itself and the surrounding tissue, and may be removed after twenty-four to forty-eight hours.

Venous hæmorrhage may be recognised by being of a dark red colour, and flows in a uniform stream. It is not so dangerous as arterial, and can generally be arrested by direct pressure. The healing of veins is extremely perfect if the wound be longitudinal, in which case it should be carefully closed and compressed, and in a very few days there will not be the slightest trace of the injury. The blood flows through the veins with so little force that the cut edges do not become separated as in the case of an artery. Veins possess only a feeble power of contraction, and are therefore incapable of arresting hæmorrhage without surgical aid.

Hæmorrhage occurring from a raw surface is both arterial and venous, and is caused by exposing the ends of the vessels either by accident or disease, as a graze or ulcer; the application of cold dressings will be found a valuable auxiliary in these cases.

Bleeding from the free surface of the mucous membrane occurs when it is much congested, and, in many instances, proves fatal, such as a case which is recorded of hæmorrhage from the stomach. There was not an open vessel found after a most careful post-mortem examination. In such cases we must trust to internal remedies, such as acetate of lead combined with opium, and in many instances the application of cold.

In a very dangerous disease known as hæmorrhagic diathesis, the arteries have an uncontrollable tendency to bleed. This diathesis is, fortunately, of rare occurrence in this country, but is more prevalent in some parts of Germany, where those suffering from this disease are called "bleeders." In hæmorrhagic diathesis the blood issues forth in remarkable quantities from the slightest wound, life often thus being put in jeopardy, and even lost, from the hæmorrhage resulting from a scratch, the opening of an abscess, lancing the gums, and especially from the extraction of a tooth. The blood does not issue forth in jets, but continues in an oozing stream apparently from the capillaries rather than any special arterial trunk. After the extraction of a tooth, and consequently rupture of the nutrient artery, and also the capillaries supplying the periosteum, the blood does not stop, as in most cases, within half an hour of the operation, but continues welling up in the empty socket for many hours, or even days. In some cases it stops soon after extraction, only to recommence with renewed vigour, when surgical aid should at once be applied, otherwise the patient may succumb from loss of blood.

The treatment should be local and general. In the former styptics should be applied, such as oil of turpentine, perchloride of iron, tincture or infusion of matico, tannic acid, &c. A small piece of lint should be steeped in either of these astringents and applied to the bleeding surface, or formed into a plug and placed in the tooth-socket, upon which put other pieces till the cavity is quite full. Then fit a cork or roll of lint for the patient to bite upon, and thus replace the lost tooth, or teeth, as the case may be. After which tie a bandage under the chin and over the head to keep up a steady pressure upon the surface of the bleeding vessels. In many cases syringing the cavity with cold water will remove the clot and aid the contraction of the vessels. In the case of extraction of incisors, canines, and bicuspid, the bleeding is sometimes effectually stopped by replacing the tooth. Packing the socket with soft wax has been mentioned, but I do not place much reliance on this method, as the cavity can never be kept dry for a period sufficiently

long to make an exact impression of the socket, which must necessarily be done before the blood will stop. I think, however, that none of these methods are so effectual as the matico leaf in stopping hæmorrhage after the extraction of a tooth, and so great an authority as Tomes states that, if applied carefully there is hardly a case in which it will fail. The leaf should be cut into strips as broad as the cavity is deep, then, when softened by the steam from the spout of a kettle, they may be rolled into cylinders tapering at one end, in which condition they are to be placed carefully into the socket, which has previously been washed out with cold water.

In treating a patient generally for hæmorrhage from a tooth-socket or any particular part, those chemicals should be administered which have a tendency to cause coagulation of the blood, such as gallic acid, tannic acid, acetate of lead, opium or turpentine, &c., all of which tend to bring about the desired result.

This diathesis appears to be dependent on three distinct conditions. Firstly. It may be congenital or hereditary, especially in males. In one case which is mentioned by Holmes, in his 'System of Surgery,' the male having been affected, the diathesis was transmitted to the second and third generations. The females were not affected, though the disease, after this lapse of time, was again revived in the male offspring. Secondly. Hæmophilia occurs in people who are suffering from some defect in the solid constituents of the body, by which the smaller vessels are liable to rupture too easily, and do not contract with sufficient readiness when severed. Persons who are in ill health are more prone to this class of hæmorrhage, the tissues of the body being soft and flaccid, so that a slight blow or trivial wound causes extensive bruises or a free flow of blood. Thirdly. Where there is a morbid state of the blood, by which the power of coagulability is lessened, or in some cases lost. This abnormal condition of the blood often occurs in connection with scurvy, chronic jaundice, albuminuria, &c. The blood is stated to be wanting in red corpuscles and fibrine, it is also watery, and has not the power to coagulate, but it is stated, perhaps more correctly, that there is no difference between hæmophilia and healthy blood in the early stages of the bleeding, but later on, when there is a great loss of blood, the patient becomes anæmic, and the coagulum is weaker, till at last the blood becomes watery and only tinged with colour, and then it ceases to form altogether. But there are certain facts, namely, that it is hereditary, more prevalent in males than in females, that it may occur at all

ages and in all countries. The want of contractility of the vessels, therefore, proves the tissues rather than the blood are the cause.

ON GOLD CAPS FOR GUTTA-PERCHA FILLINGS.

By WALTER GEORGE GORDON JONES.

It has been suggested by one or two gentlemen in your Journal to cover gutta-percha fillings with a gold cap in order to render them durable and make a good permanent filling. The advantages of such a filling are obvious; firstly, it would protect the gutta percha from bulging out, and from the action of the acids and fluid of the mouth; and, secondly, contour fillings (which are rarely now built up), could with more safety, and with much greater chance of success and facility in working, be resorted to. If this practice is to be carried out, I should imagine that these gold caps might be supplied by the several Dental depôts in London; not only would it save the operator the trouble of making them, but they could be let into the cavity to fit the edge or border of the walls accurately, and when roughed inside and carefully fixed, would afford, to all appearance, for many sensitive teeth a permanent plug. Out of the 2500 Dentists in Great Britain, I imagine from what I have seen in private and hospital practice, there are only a small percentage who can insert a good gold contour filling; this plan would in a great measure meet the difficulty, hence my reason for bringing it under the notice of your readers.

Brixton, S.W.

Mechanical Dentistry.

CONTINUOUS GUM WORK.

By LAWRENCE VANDERPANT, Esq.

Now that the attention of the profession is more particularly attracted than heretofore to this beautiful, but comparatively unknown, work, I am induced to offer some remarks thereon, with the view of creating an interest, arousing discussion, and stimulating some of our "true workers to experiment."

I will premise that there are a vast number of practitioners who have long since been dissatisfied in supplying their patients with a mere vulcanite set, not from any inherent defect in the system itself (which, on the contrary, properly and judiciously applied, possesses many most invaluable properties), but that it does not apparently afford a *quid pro quo* to the patient for the fee we should be entitled to for our skilful services in supplying a denture. A grumbler has many opportunities of criticising our work, and making odious comparisons. One great shortcoming in vulcanite is the defective imitation of the natural gum.

Thanks to the hospitality and courtesy of Mr. Crapper, of Hanley, I have had the opportunity of seeing some of the most beautiful and scientific arrangements in mechanical Dentistry it has been my good fortune to witness, especially with reference to the above. As, no doubt, all your readers will have at least *seen* a case of the kind, it is unnecessary for me to describe its appearance, but those who have not, may imagine a set (or partial) being constructed of gum teeth, or better, sections, without a microscopical sign of a joint, with the advantage you have of articulating your teeth to any irregularity that may be requisite, and you have "continuous gum work." But, perhaps, I could not do better than suggest a visit to the depôt of the Dental Manufacturing Company, where may be seen specimens of this and other work of an advanced scientific character.

The *vrai semblance* that this work alone, among all others, affords to nature will undoubtedly win for it the undying regard of a class of patients who would sacrifice everything at the shrine of vanity, and the same feeling will, by degrees, percolate through all classes requiring our aid. As I desire to write in a practical form, and trust a suggestion or so may possibly assist such as work it, or intend to do so, I will at once point out what appear to me the defects of the system.

1st. The length of time and attention necessary for its construction.

2nd. Its liability to fracture, and the difficulty of repairing such.

3rd. The unpleasant sensation produced by two masses of mineral substance coming together in the act of mastication or articulation.

4th. The general difficulty of manipulation to such as have only limited laboratory appliances, &c.

Now, it appears to me that an ordinary amount of intelligence would readily surmount all these; but I would steadfastly uphold that services rendered by the means

which I am discussing should command a substantial *honorarium*.

1st. If Mr. Fletcher's gas furnace succeeds as well as many other matters he has introduced to our notice, much will be done towards simplifying the process.

2nd. I imagine a much stronger platina plate should be arranged with a substantial strengthening wire, especially in the centre. That the pins in the teeth are not, at present, of adequate support to resist the natural "leverage" in a deep case. That it is unnecessary to cover the palate with the gum.

3rd. As I have understood, for many years past, that patients invariably complain of (for want of a better expression) the "clacking" of the body of mineral coming together, as well as the noise produced, I would suggest that the internal portion of the superior molars (the lingual) be formed of pure tin (by casting on to the plate) or vulcanite; the former I would prefer as being the more simple. You would use, in the place of ordinary molars, broad central incisors.

4th. Of course, there are many who would not have the facilities to carry out this work throughout. I would suggest to such that they could arrange the plate, articulate the teeth accurately in the ordinary way, soldering them to plate, and give over to some one duly skilled to apply the body and gum and complete, which would be little more than the common practice of sending a flask to a *dépôt* to be vulcanised, though, of course, more complicated and costly.

I have already trespassed unduly on your space, but feel confident, among your subscribers, there are many who would joyfully welcome any means by which they could attain to "higher art" in what I would term "restorative Dentistry," and this means affords them an avenue of so doing. I doubt not, in course of time, the matter may become thoroughly popular. I am not blind to the fact that there are many admirable and accomplished gold pluggers who heartily despise mechanical subjects, and *vice versa*. I even know of one gentleman (*i.e.* if still living) who was satisfied that he was an accomplished "scaler;" but, in these days of advancement, we must either "progress" or "retrograde."

CONTINUOUS GUM WORK.

I AM disposed to think that all the correspondence on this matter will never cause the work to become generally used, owing to the inherent defects mentioned in my last.

My reason for again referring to it is to express surprise at Mr. Balkwill's statement, that he found the cold draught through the gas furnace was injurious to the work. After turning out the gas the first thing I should instinctively do would be to stop the holes and prevent any draught. Why Mr. Balkwill does not do this I am at a loss to understand.

Mr. Crapper states that a great deal of experience is necessary with a coke muffle furnace, but unfortunately does not state whether he has had this experience with a gas furnace, and I question also whether he has had the last furnace at all. I am quite certain that if he had this furnace, plus the experience, his opinion would be very different.

As I before explained, I have no faith in the use of continuous gum in ordinary practice, not only because of its great liability to accident, but also on account of the long time required for repairs. I am quite certain that the gas furnace (plus experience and common sense), is all that need be desired for the work.—THOS. FLETCHER.

IMPRESSIONS FOR UPPER SUCTION CASES.

By EIMER R. SHOWLER, Esq.

IN continuation of Mr. Gabell's excellent remarks on the above subject in your last issue, I may add that I have never, or "hardly ever," found the Godiva composition adhere to the gums in the way in which he describes; in fact, I have often found it come away too easily, especially if there happens to be a small quantity of superfluous composition. In this case the superfluity will drop slightly at the back and allow the air to enter, consequently it comes away without any trouble, still obtaining a correct impression, as the superfluity at the end of the tray is not required, providing the tray fits accurately. I have invariably found that the power of capillary attraction and atmospheric pressure is far greater when using plaster of Paris or the A 1 modelling composition, and although I have asked my patient to swallow, I have found in some cases that they cannot, especially with plaster, and if they do succeed in swallowing, it is generally followed by severe vomiting (caused by the alum which is in the plaster), which is extremely disagreeable to patient and operator, the latter being in fear of the impression being broken. I think I can fairly say, at all events according to my own experience, that plaster of Paris (Ash's) takes the most correct impression, and if there is any suction in the mouth at all it will always retain an upper

denture, providing the case is vulcanised on the model. In cases where plaster cannot be used, as in many cases patients object to it, I have found nothing better than the A 1 composition, which takes an impression nearly as sharp, but with this the power of capillary attraction is nearly as great as with plaster. In one case I was taking an impression, and after placing the composition in the tray I painted it with a coating of pure glycerine previous to inserting in the mouth, thinking it would part without any trouble, but much to my astonishment I found that after the usual time allowed for setting I could not move it, and my patient (an elderly lady) was getting exceedingly nervous and excited, fearing that I should bring away part of her gum. However, after about a quarter of an hour (during which time my patient had swallowed several times), it came away, having obtained a capital impression, but leaving the gum rather tender consequent upon the patient herself trying to remove it. In conclusion, I must add that I made an upper denture of vulcanite, and after fitting it, having vulcanised on the model, I could not remove it without a considerable amount of trouble.

34, Loraine Road, Holloway, N.

WOOD'S DENTAL REFRIGERATOR.

WE have much pleasure in drawing attention to this elegant and useful addition to the furniture of the operating room, having personally experienced its benefit to patients.

The advantages of being able to instantaneously harden the plastic compounds used in taking impressions of the mouth can scarcely be over-estimated. Much time is saved to the operator, and unpleasantness to the patient avoided; but what is of more importance still, the impression being hardened whilst in absolute contact with the whole of the parts, a perfectly correct model must result if a *non-shrinking* impression material is used, for all risk of sucking, dragging, or otherwise changing shape on being withdrawn is effectually avoided. By using the Refrigerator, almost instantaneous hardening of the composition takes place whilst the impression is in absolute contact with the mouth, any change of shape on withdrawal being rendered impossible by the material being, in a few seconds, restored to its normal condition of unyielding hardness. The apparatus has a neat and handsome appearance, and makes, when not in use as a refrigerator, a light, useful operating stand, as in Fig. 1, the water cistern A, covered with green or crimson

cloth, forms a top on which to lay instruments, &c. This top is attached to a sliding upright rod, which telescopes

FIG. 1.

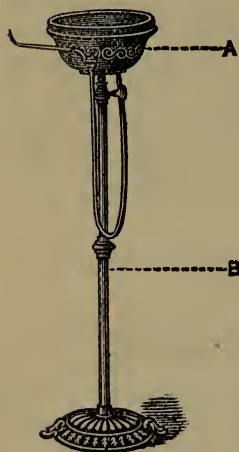


FIG. 2.

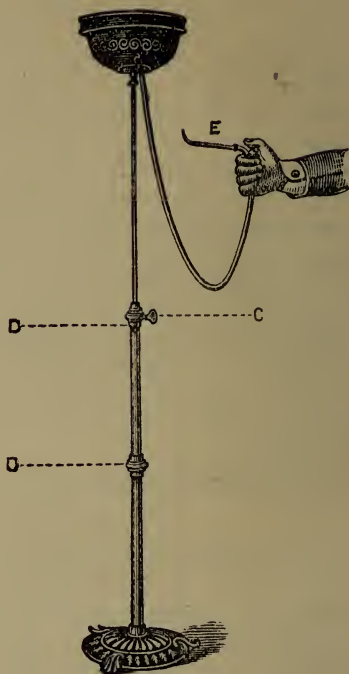


Fig. 1 shows the Refrigerator when used as a Portable Operating Stand.
Fig. 2 shows the Refrigerator extended ready for use.

inside the supporting column B. When using the refrigerator in cooling impressions, &c., the top is lifted up as shown in Fig. 2, to a height of from 15 to 18 inches above the level of the patient's head, and maintained there during the operation by a single turn of the thumb-screw C. Leading from an outlet in the bottom of the cistern is a covered elastic tube, joined to a neat hand-piece with tube and nozzle. The hand piece is so constructed as to be controlled with one hand only, the other hand being required to keep the impression tray and contents steadily in position. By simply pressing a valve with the thumb there issues a continuous cooling stream, which is delivered into the mouth of the patient, and to the cooling action of which every part of the impression is subjected and rendered hard. The water, as it is ejected upon the impression, passes from the mouth,

and is received in a hand spittoon, held by the patient under the chin; and when sufficient hardness has been obtained, the supply can be instantaneously checked by withdrawing the thumb from the valve of the hand-piece. Water alone being used as the cooling agent the process is cleanly and agreeable to patients, and in cases where there is an uncontrollable tendency to nausea on the introduction of the impression tray, it is exceedingly valuable as the application of the cold stream in almost every instance effectually checks this unpleasant sensation, whilst at the same time patients are more quickly relieved by the speedy removal of the exciting cause itself. The experiences of professional practice demonstrate how difficult it is in some of these cases to obtain reliable impressions by ordinary methods. In the taking of "bites," where the composition is not supported by any bite frame, complete hardening before removal is indispensable to insure accuracy. The side supporting hook, sliding rod, thumb-screw C, ornaments DD, and hand-piece E, are nickel-plated and burnished, the other external parts of the apparatus being finished in black enamel ornamented with gold, the interior of cistern, &c., is enamelled white.

Mr. Woods has also given much attention to a modelling composition, which upon trial seems to possess all the advantages he claims for it, viz.—No shrinking or stickiness, and the power of taking a clear, sharp impression, it is well spoken of by some of our best operators.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM SEPTEMBER 1ST TO SEPTEMBER 30TH, 1879.

Number of Patients attended	1193
Extractions { Under 14	333
{ Adults.....	634
{ Under Nitrous Oxide	53
Gold Stoppings	16
Sheets of Gold used, independent of Pellets.....	25
Other Stoppings	214
Advice and Scaling	120
Irregularities of Teeth	18
Miscellaneous.....	30

Total operations 1468

WILLOUGHBY G. WEISS,

House Surgeon.

British Journal of Dental Science.

LONDON, OCTOBER 15, 1879.

No better evidence can be found of the progress Dentistry has made, not only in itself, but in the estimation in which it is held by the medical world, than is shown by the contrast between the September "Students' Supplement" of this year and those of former years; and, again, by the space that is devoted to the subject in the medical papers. For years our little body of Dental students remained almost in obscurity in a small corner of Soho Square, scarcely heard of, little known, except within their own body. No particular issue, even of the journals of their own specialty, was devoted to their interests and information, and the medical journals did not even mention them. No hospital, save the Middlesex, thought it worth while to cultivate their acquaintance, and some we remember refused with scorn any endeavour so to arrange the times of certain of their lectures as to meet the convenience of the Dental students. The annual distribution of prizes was held quietly and unnoticed by the outer world, and the very students themselves were merely volunteers availing themselves of a purely permissive education.

Now how changed it all is! The scientific and practical education is now compulsory on all who desire to practise Dentistry. The information afforded in the pages of our Annual Students' Supplement has grown to such an extent, that we shall in future be compelled to abbreviate it. In place of the Dental curriculum of one college—the Royal College of Surgeons of England—four colleges now confer diplomas in Dental surgery, viz. England, Ireland, Edinburgh, and Glasgow. Three Dental hospitals publish a special calendar in addition to their usual reports; and the architectural appearance of one of these hospitals, the Dental Hospital of London, may be contrasted favorably with almost any institution of similar importance; the medical papers in their students' issue have special pages devoted to the information of

the Dental student, and hospital after hospital opens its arms to receive and medically educate the future "Dentist"—a word that in future, as regards the rising generation, will as much mean an educated man as the word surgeon or physician does. The annual distribution of prizes is a public occasion of enjoyment and reunion, much favoured by the fair sex, held in one of the largest assembly rooms in London, and presided over by the most distinguished orators and practical surgeons of the day. Surely all this is cause for great pride and thankfulness to those who have worked so hard to bring it about; and we would urge our young friends to pause awhile and, looking back on the records of past times, contrast the numberless advantages they enjoy with the scanty means of instruction afforded to their predecessors, and resolve that they will so profit by the scientific and practical teaching of their professors that it shall never be truly said of them that although more highly educated they are not practically equal to the Dentists of old days.

Literary Notices and Selections.

NEW PRINCIPLES IN DENTAL PATHOLOGY. A REVIEW OF THE SO-CALLED NEW DEPARTURE.

By W. C. BARRETT, M.D.S., Buffalo, N.Y.

(Read before the New York Odontological Society, Oct. 15, 1878.)

(Reprinted from the 'Dental Cosmos.')

At a meeting of this society held about a year ago, a paper, having for its title "Plastic Fillings, and the Basal Principles of the New Departure," was read. That essay has attracted attention in some quarters, but much the greater portion of the profession has chosen to ignore it altogether. I cannot commend this course; for, if there be any new and great principle involved in this doctrine, the matter is worthy of our most careful consideration; and if it be a compound of errors, others have a right to an expression of our opinion to that effect.

He who discards old-established usage, and proposes a complete reversal of methods long in vogue—who places himself in direct opposition to well-established and accepted

authorities—ought previously to carefully consider the ground he proposes to occupy, and be sure of his premisses before stating conclusions. Luther, Kepler, Harvey, Newton, proposed, in their times, “new departures,” but they were themselves authorities in the positions they overthrew, and thoroughly conversant with and expert in such principles. It is a grave matter, this attacking a world. It may be an indication of the most determined courage, or it may be but an exhibition of the veriest foolhardiness. The assailant may be a true reformer, or he may be only a mistaken enthusiast. It is therefore our duty to critically examine new doctrines; to shun that undue credulity which disseminates error, as well as to avoid that pride of opinion which would close our minds to new ideas, simply because of their novelty. In this spirit let us examine the subject of the new doctrines.

I object to the proposed “New Departure,” and cannot give it my support, because I believe it to be a mere vagary of the mind—a fallacy which does not even rise to the dignity of a sophism.

To establish my right to thus sit in judgment upon this proposed new method of practice, I declare that I have studied the matter and patiently considered it; that I have instituted a system of experiments which I have observantly conducted during a period of more than four years; and that, the more closely I examine the matter, and the better I become acquainted with its basal principles, the more firmly is my faith in long-settled practice established.

To Dr. S. B. Palmer is due the full measure of credit for first presenting to the profession any theory concerning that which has since been modestly denominated the “New Departure.” He is, you are aware, a *student*, according to the light given him. He is not a mere speculative theorist, searching for corroboration of a previously conceived hypothesis. On June 25th, 1874, Dr. Palmer read before the New York State Dental Society, a paper entitled “Chemical and Galvanic Action upon the Teeth;” wherein was first (to my knowledge) broached the theory of galvano-electrical disintegration of the teeth. The paper was warmly received, and Dr. Palmer was urged to continue his investigations. At the meeting of the same society, June, 1875, he read his paper entitled “Success or Failure in Dental Operations Chemically Considered;” and in July, 1876, another called “Choice of Materials in Filling Teeth.” These were his principal papers upon this subject. All were read before a society in which I was vitally interested, and hence they especially challenged my attention. I immediately after the

hearing of his first paper commenced a series of experiments to practically test the truth of his assertions, and have ever since been engaged in closely watching that which would be likely to prove instructive.

And now let me give my reasons for believing the "New Departure" a fallacy:

First.—It is, to my apprehension, an entire misconstruction of scientific law.

Briefly stated, the theory rests upon these hypotheses:—That, in the presence of an acid, any two diverse substances form the elements of a battery; that one of these is at the positive pole, or assumes a positive relation to the other, and is therefore disintegrated; that different substances have widely differing electrical relations; and that upon these relations depends the amount of the disintegration, and which of the elements is acted upon and disintegrated.

Now, nothing can be stated against these hypotheses *as such*. It is the interpretation given to them in which lies the mischief. The New-Departurites confound *cause* with *effect*. The tooth, the filling, and the oral fluids form the elements of a battery. But the electric current is wholly dependent upon the chemical action of the fluids which generate it; instance the zinc and copper cell. In the presence of the acid the zinc is positive, and is corroded by—what? By the *electric current*? Not at all; but by the chemical action of the acid which *generates* the current. Yet the new doctrines call upon us to believe that electricity, *per se*, is the destroying force.

It is an axiom among electricians, that there is no electric current without some preceding molecular change; that an electric current is but the effect of some producing cause. Yet here we see it elevated to a primal importance, and designated as the *cause of the cause*—a thing which has produced itself! To my apprehension, the galvano-electric current in the mouth is but the *effect* of tooth-decomposition through chemical changes in the mouth.

Second.—Any electric current which may be detected in the oral cavity is possibly due to other causes than the presence of the elements of a voltaic battery. There are constant thermal changes which are quite competent to deflect a delicate galvanometer. Before we alter our practice entirely, we desire to know that any possible current is traced to its proper cause.

Third.—An *electric* current may excite chemical action sufficient to decompose a compound, or even volatilise a simple substance; but a comparatively powerful current is required to do this. Most conductors are competent to carry

away, without injury to themselves, all the electricity they are likely to receive. It is absurd to suppose it possible for any current to exist in the mouth capable of decomposing tooth-tissue.

Fourth.—If a gold filling in a tooth is capable of developing a current sufficient to excite the disorganisation of bone, what must be the effect of a partial gold plate in the mouth? It might readily be supposed (according to the new doctrine) to be as bad as a charge of dynamite.

Fifth.—If the presence of metals (which, according to this new gospel, assume a negative relation to the tooth) be the principal or only cause for decay of the teeth, then unfilled teeth ought never to decay, and there should be no necessity for filling teeth primarily, since one of the elements of the battery is then wanting, and, by consequence, there can be then no tooth-disintegration. But, since this is not, in reality, the case, why may we not say that the same conditions which produce decay before filling do so afterward?

Sixth.—In the consideration of any of the phenomena of Nature, we never need search for a recondite cause so long as ample reasons lie near the surface, or in full view. A very sufficient excuse for the disintegration of teeth after filling may be found in imperfect manipulation and direct chemical action, without appealing to electrolysis.

Seventh.—In any case, an electric current is but one of the factors in the sum of tooth-decay, whereas, by the terms of this new doctrine, it is elevated to the importance of being the only cause worth taking into account.

Eighth.—I consider this new theory fraught with evil to the Dental profession, because young Dentists are, in effect, taught by it that the years of patient, steady, persistent effort to reach a higher plane of excellence are thrown away, and that the unskilled recruit is fully the equal of the old veteran; that experience goes for nothing, and that firmly-established principles may be swept away by a single blast from a discordant trumpet. If there be no necessity for thorough excavation, as has been urged by the apostles of this new-fangled theory—if a leaky filling is better than a tight one, and if the easily manipulated plastic fillings superior to thoroughly impacted gold ones—then the time, practice, and patient study necessary to learn the proper manipulation of gold foil are worse than thrown away, and those who have spent so many years in accumulating practical knowledge are the inferiors of the boys just commencing their career. Then, at the outset of my practice, when my ability did not extend beyond the inserting of amalgam into improperly excavated, wet cavities, I was a better operator than I now

am, after fifteen or twenty years of constant deterioration in the line of gold practice !

Ninth.—The return to plastic fillings is the adoption of a practice which has been proven to be inferior. American Dentistry is known and honoured among all civilised peoples, and American Dentists are conceded to be without foreign peers. Yet European Dentistry differs from ours only in the materials used, and the consequent manipulative ability. Gold has been the mainstay of the American Dentist, and the possibilities of this material have stimulated him to the highest attainments in manipulative skill. The European Dentist has used, mainly, plastic fillings, and his progression in Dentistry has barely kept place with the possibilities of his material. The abandonment of gold means the forsaking of the metal which has made the American Dentist what he is, and the adoption of that material which has made the European Dentist his inferior.

Tenth.—The proposed "New Departure" in Dentistry rests upon a hypothesis toward the proving of which not one element of satisfactory evidence has been advanced. When Darwin, Tyndall, or other scientists, propose any new doctrine, it is the result of a long and exhaustive series of experiments, either performed in the presence of unprejudiced spectators, or the most minute details of which are carefully set down. Upon what extended series of experiments does this new theory rest? Dr. Palmer, in his paper entitled "Chemical and Galvanic Action upon the Teeth," gives a brief account of a very few. He says, "We take teeth and pound them in a clean wedgwood mortar, somewhat fine, and connect the pieces with the gold, using dilute sulphuric acid, and we find tooth-bone an electrolyte, or positive: the gold will remain a negative. Between the tooth and the gold the action of the needle will be slight; between tin and gold very great. . . . The next test is between tooth-bone and tin-foil." Now, it seems to me that such experiments as these amount simply to nothing, in determining the points in question. In the first place, the conditions are not at all those found in the oral cavity. We do not question his very indefinite and inexact declaration, that "the greater the difference between two elements, the stronger the current;" but in what way does this prove that chemical disorganisation of tooth-tissue is due to a galvanic current which this same chemical action develops? Tooth-bone, treated with sulphuric acid may develop a current in the production of the resultant sulphate of lime; but we should not call this salt, so produced, the result of an electrical condition. If we are to abandon our present practice

for a new theory, we desire to know exactly what experiments and proofs substantiate the hypothesis. We demand that trial tests be performed, either in our presence, or substantiated by such minuteness of detail as shall give others an opportunity to verify or disprove them. We want to know just what were the conditions of the tests. If it is stated that the galvanometer needle was deflected, we wish to know *what* galvanometer, and how it was used; for these instruments are not only very differently constructed and manipulated, but those of a kind vary greatly in results from each other. We ask what unit of resistance was used in the calculations; how the current was measured or shown; if measured, the number of ohms; if shown, whether it was by the galvanometer, the electrometer, by chemical action, by thermal effects, by induction, or "by guess." In short, we ask for *facts*, not speculations. Scientific men are not in the habit of accepting the crude ratiocinations of possibly interested men in matters where carefully conducted experiments may practically solve the question.

If an active acid is used, letting go its hydrogen it unites with a base to form a salt, at the same time, and by this action, generating an electric condition. Hence, it is absurd to charge, *as the cause* of this action, one of its accompanying phenomena—the result of a chemical action which would generate a current without the presence of any metal. Again, if the elements be subjected to thermal changes, as in the oral cavity, a current may be developed without the aid even of an acid; for instance, warm a piece of platinum, place it in simple contact with gold, and a current is at once developed. Or, put a piece of zinc wire in proper contact with that of a Thompson galvanometer, then *twist* the wire, and your instrument will indicate the presence of an electric current. In fact, electrical conditions are produced by all molecular change, but such currents will not decompose tooth-tissue.

In view of these facts, I dispute the conclusions advanced by the new doctrine. I say that the so-called "New Departure" contravenes the fundamental principles of physics. It contradicts all science and all scientific men. It is utterly unworthy of even our respect, until it be established by experiments in the mouth, conclusive and often repeated, under all possible circumstances. Generalisations will not be sufficient when it is sought by them to establish scientific truth.

But what are the conceded facts concerning this whole matter? In the February number of the 'Dental and Oral Science Magazine,' page 7, the propounder of this theory says:

"We have carefully, and, we believe, scientifically, investigated every line of experiment which has professed to show the current which, we believe, is eliminated by contact of metal with tooth-bone. This we have done with the best instruments and apparatus which our country can produce; and we find that such current *has never been shown, much less measured*. Even that curiously ingenious line of experimentation upon this subject which was presented at the Centennial Meeting of the American Dental Association, and which gave to our profession that scale of relativity known as the 'Harvard Tension Series,' in which gutta percha was placed at zero and gold at 200°, and which gave those who had faith in gold such a 'black eye' (as it was expressed), we pronounce utterly worthless, and without any scientific basis." And again, the same author says, "Now you see, gentlemen, that, notwithstanding the fact that we are unable, as yet, to *demonstrate the existence of a current*, yet, nevertheless, the *reasonableness* and *consistency* of our theory is such that we may say that gold being a good conductor, and being itself unattacked, when placed in contact with tooth-bone must, on general principles, cause excessive electro-chemical action, which action must eventuate in the disintegration of tooth-structure—and therefore gold is the worst material to use when a tooth is of such structure and in such condition as that it needs something which will help to preserve it."

Here we have it! It is NOT *demonstrated* but *it is suspected*! What kind of reasoning is this to present to a body of scientific men who are searching for the truth?

And here I make my eleventh point against the "reasonableness" and "consistency" of this great discovery.

Eleventh.—The propounding of this "New Departure" presupposes a *theory*, which is the curse of study. Any one who is committed to such a thing is honestly liable to the charge of labouring to establish a foregone conclusion, of working to prop an opinion formulated before all the evidence is in, of pronouncing the shield all one colour before looking at both its sides. Study should be to reach truth, not to sustain an expressed opinion. True scientific men, searchers after truth, do not start out with a theory and then endeavour to find seeming facts to substantiate it. They first accumulate their proven points, and from them deduce laws. All the scientific world has learned to shun the man with a theory. It has passed into an axiom to "beware of hypotheses." According to the confession of one of the propounders of this new doctrine, the whole matter rests upon deductions elaborated from an uncertain brain rather than

from an indisputable laboratory, and consequently is, until established by practical tests, unworthy our serious attention.

Heretofore I have been considering, more particularly, Dr. Palmer's electro-chemical theory. I now desire to say a few words concerning plastic fillings. On this point I find this modern "house that Jack built" divided against itself, and all the principles laid down for the guidance of its constructors deliberately ignored or determinedly contradicted by their authors.

Dr. Palmer says that the multiplication of elements in a compound intensifies electrical conditions, and therein corroborates the voice of science; yet the "New Departure" urges the use of complex compounds in place of simple substances, for the avowed purpose of avoiding that, which in another place, it declares intensifies the disturbed condition. Is this a part of the "consistency" and "reasonableness" of the new theory? All hydrocarbon gums, as gutta percha, readily undergo the molecular changes which generate electrical conditions. Gutta percha will slowly disintegrate, even in air. You all know how the surfaces of such fillings decompose and become spongy in some mouths. Theoretically (and the disciples of the "New Departure" cannot object to this manner of viewing the subject) the more simple the substance the less it is affected by chemical or galvanic influences. The union of gold and tin is much more liable to develop a current than either alone. According to all scientific testimony, compounds are liable to evolve complex electrical currents which simple substances avoid. Of all the metals, gold is the least oxidisable and the most stable, and hence, from the stand point of evidence adduced by the "New Departure" itself, it is the very *best* material with which to fill teeth.

On *prima facie* grounds (the favourite method of argument with the students of the "New Departure") compounds are, then, unfit to put in the mouth at all. None such are entirely stable, and the more complex their elements the greater the probable electrical changes. German silver (nickel and copper) always tastes badly, because in the presence of the fluids of the mouth electrical changes are induced. The molecular changes attending the crystallisation of amalgam, especially when accompanied by thermal disturbances, as in the mouth (it is *reasonable* and *consistent* to suppose), *must* develop a galvanic current; and accordingly there is almost universally a bad taste succeeding the introduction of amalgam fillings.

But on this subject I cannot do better than quote Dr. Palmer, he who has furnished, ready-made, the basal theory

of the "New Departure" (for the author of the paper read before you a year ago announced himself as simply the mouth-piece of Dr. Palmer). In the paper wherein Dr. Palmer first made known the result of his studies (read before the New York State Dental Society in 1874, and already quoted from), he says ('Transactions of the New York State Dental Society for 1874,' page 155):

"A porous tooth containing an amalgam plug has in it the elements of a minute, yet intense, battery, capable of decomposing not only the plug but the tooth around it; this is in accordance with a law of chemical affinity . . . Chemical affinity cannot be cheated of its action, and the greater number of elements there are in a battery the greater number of currents and counter-currents there will be; and galvanic action takes place on all surfaces of the mass, and within as far as moisture extends. We look in vain for amalgam plugs to be bright on the surfaces in contact with dentine. The action is between the compound and the mercury; while in tin only the outer surface is acted upon, that is, tin or gold represents one element each; and before any galvanic action can take place between such plugs and dentine into which they are inserted, there must be a space for a fluid to excite action.* With amalgam, the moisture in the tooth-bone is sufficient to communicate the current which exists in the plug to the tooth, and thus enlarge the cavity or diminish the plug or both. . . . The fact is, the addition of metals to a compound only complicates galvanic action."

Thus, then, we find that the author of the electro-chemical theory can be successfully quoted against himself; and he asserts that amalgam compounds only intensify that electrical condition which, we are told, is the main source of tooth-decay.

And now, in conclusion, I can only say that I have examined this matter as carefully as possible, and without any preconceived theories to establish. I have corresponded much with Dr. Palmer, and have endeavoured to arrive at the *truth*. I desire to be courteous to those gentlemen with whom I am compelled to differ, but courtesy does not go so far as to force me to accept their conclusions without a careful preliminary examination. For the results which they ascribe to galvanism I am certain we need not go far to discover another cause, one much more in accordance with scientific law and observed and recorded facts.

* That is to say, that any gold or tin plug which can excite electrical action prejudicial to a tooth, *must* have been so *badly inserted* as to allow space for penetration of moisture between it and the tooth; and hence that a gold or tin plug, *properly inserted*, must be the *best* for the tooth, *since no galvanic action can occur between it and the dentine*.—W. C. B.

THE DISCOVERER OF ANÆSTHESIA.

By Dr. EDWARD H. BOWNE, Dentist.

THE following letter to a local paper, 'The New Brunswick Fredonian,' has been sent to us with a request that we would republish it.

In a recent speech of the Hon. A. H. Stephens, at the Georgia University, he claimed the honour of the discovery of anæsthesia for Dr. Crawford W. Long, a graduate of that institution, and asserted that France, Germany, England, and Russia all acknowledged Dr. Long's claim to this proud title; and on August 18th, the Georgia House of Representatives passed a resolution unanimously presenting the name of Dr. Long as one of the representatives of Georgia in the National Gallery of States at Washington as the discoverer of anæsthesia.

I would respectfully suggest that the Hon. A. H. Stephens and the Georgia House of Representatives are entirely mistaken in regard to whom the honour belongs of the discovery of anæsthesia.

The three most eminent claimants of the discovery of painless surgery by anæsthesia were Dr. Horace Wells, a Dentist of Hartford, Connecticut, and Charles T. Jackson, M.D., and W. T. C. Morton, M.D., of Boston, Massachusetts.

The Academy of Sciences of the Institute of France awarded to Jackson a prize of 2,500 francs "for his observation and experiments upon the anæsthetic effects of ether," and to Morton another of like amount "for having introduced this method into surgical practice after the indications of Dr. Jackson."

But the Dental and medical professions of both the New and the Old Worlds, after the most vigorous and candid investigation, concede the merit of having first demonstrated the happy idea of deadening sensibility in painful surgical operations, by using both nitrous oxide gas and ether to Dr. Horace Wells, and a noble monument has been erected to his memory in the public park of his native city, Hartford, Conn., as the discoverer of anæsthesia.

The American Dental Association, in 1864, passed resolutions declaring, "That to Dr. Horace Wells (now deceased) belongs the honour of the introduction of anæsthesia in the United States of America. And in 1874, in response to an appeal from the editor of the 'British Journal of Dental Science' in England, the Dentists of England forwarded to Mrs. Wells, with a sum of money, an elegantly engrossed testimonial to the merits of her former husband, "to whom

the world is indebted, not only for the introduction of nitrous oxide gas as an anæsthetic, but also for giving that impetus to the study of anæsthesia which has resulted in the introduction of chloroform, bichloride of methylene, and various other agents for affecting that purpose."

The Hon. Truman Smith appointed by the American Congress to investigate the character and weight of the several and conflicting claims, reported, after a fair, impartial, exhaustive, and candid investigation in favour of Dr. Wells.

And the Legislature of Connecticut, his native State, awarded to Dr. Wells in 1847 a vote of thanks for his discovery of the use of nitrous oxide gas and ether in surgical operations, and in 1871 appropriated \$5,000, and the city of Hartford \$10,000, for the erection of a monument to his memory.

The American Government, thus far, have failed to confer any reward upon any one of the distinguished claimants. A costly and superb monument, designed and executed with consummate skill by Ward, the eminent sculptor, and erected at the cost of a wealthy citizen of Boston, in honour of this great discovery, now adorns the public garden of that city.

In speaking of the discovery of anæsthesia, that eminent surgeon, Dr. Oliver Wendell Holmes, exclaimed: "The knife in searching for disease has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed for ever."—Rocky Hill, N. J., August 25th, 1879.

POSTING PROOFS.

A PROPOSED new feature in connection with the postal system of this country has lately been brought before our notice. Mr. A. Clifford Eskell proposes that, for the moderate sum of one farthing, an official proof of the posting of any packet, post-card, or letter, shall be given; so that on any future occasion, when it is found needful to furnish such proof that a document was actually posted, it shall be immediately available. The advantages of such a plan are many and obvious, and the system is simplicity itself; while the cost is certainly very moderate. It is suggested that the posting-proofs, as they are to be called, shall be sold in small books of three proofs for a penny, or threepence halfpenny for one dozen, and so on. When it is wished to send a letter to the post, and to have the comfortable satisfaction that it has actually been posted, one will tear a leaf out of the small

book, copy the address of the letter on to it *legibly*, and forward it by messenger or clerk with the letter, and the officials at the post-office, after comparing the letter and the address, to see that they agree, will stamp the small slip with the office-stamp and post the document themselves, whilst the messenger returns with the "posting proof," which can be reattached to the small book whence it came, so as to be available for reference at any time. It seems that the extra work that will be caused at the various post-offices, if this promising new scheme should come into operation, will be slight, and, at a very moderate computation, the gain to the Post-Office receipts will be at least £200,000 *per annum*. The year which has witnessed the demise of Sir Rowland Hill might well be further characterised by such a valuable addition to the many and enormous advantages which his system of cheap postage has conferred on the inhabitants of these islands.—*Brit. Med. Jour.*

BRITISH, COLONIAL, AND FOREIGN DENTAL QUALIFICATIONS.

It is not left for the Medical Council to determine the registration of qualifications granted under the Dentists Act by the medical authorities therein specified. But the Council is empowered to require of the licensing bodies an account of the terms upon which their qualifications are granted; and if the course of study and of examinations is not such as to secure "the requisite knowledge and skill for the efficient practice of Dentistry or Dental surgery," and the defects are, after due remonstrance, continued, the facts of the case are to be laid before the Privy Council. For, by that body alone can an order be issued suspending the right to registration of qualifications so granted. The Privy Council, upon the question of qualifications, is to the Medical Council a court of reference, the decisions of which are absolute. In respect to Colonial and Foreign qualification, the rule is reversed. Here it is for the Medical Council to determine whether a qualification furnishes sufficient "guarantees of the requisite knowledge and skill for the efficient practice of Dentistry or Dental surgery," and, if it do not, to refuse registration to the holder thereof; but, if required, the grounds of refusal may be stated in writing, and the rejected applicant may appeal to the Privy Council, the decision of which, in this as in the previous case, is final. Whether British or foreign, the claim to be placed upon the Register rests on the qualification furnishing sufficient

“guarantees of the possession of the requisite knowledge and skill for the efficient practice of Dentistry or Dental surgery.” The Medical Council has, after full deliberation, determined the course of study and examination necessary to the fulfilment of the foregoing clearly expressed condition; and the British medical authorities empowered to grant Dental diplomas have accepted the provisions so determined. Unless a foreign qualification comes up to this settled standard, its possessor, as such, obviously can have no just claim to be put upon the Register; and it is not conceivable that the Medical Council will entertain the project of placing upon the Register inferior qualifications merely because they are held foreign or because they are held by a few persons who are already registered as in practice before July 22nd, 1878. The Council has probably shown unlooked-for liberality in allowing the Harvard and Michigan Dental diplomas to be placed upon the Register. The operation of the Sections of the Dental Act relating to foreign qualification has an interest extending to medical as well as Dental practitioners. For they are in substance identical with corresponding and unchallenged Sections of the Government Medical Bill; and the interpretation put upon them in respect to foreign Dental qualifications will apply to foreign medical qualifications should the Government Bill become law.—*Brit. Med. Jour.*

MYCOSIS IN MAN.

DR. J. ISRAEL has published in Virchow's 'Archiv,' Band lxxiv, a recent observation on this affection. The patient, a woman aged 39, had had, ten months previously, a fall, striking her chest against a bedpost. Three months later, she had pains in her limbs and daily repeated attacks of fever, and entered the hospital in a state of great prostration. Her appearance was suggestive of general septic infection. The whole body was covered with marks and scars of old abscesses as well as with fresh ones; there was a particularly large one on the left side of the thorax opening into a fistula, through which large quantities of foetid pus were voided. The pus was of a green colour, and covered with small yellow corpuscles of the size of a pin's head or larger, which could be easily taken out with the point of a needle. When examined under the microscope, these corpuscles were found to consist in the centre of a thick mass of fungi, from which long thread-like appendices issued, branching off in every direction. The space between the latter was filled up with pus-corpuscles which had undergone fatty

degeneration. There were three different classes of fungi: delicate threads of mycelium, micrococci, and a third form, pear-shaped and brilliant. The same constituents were found in the other abscesses. The woman died three weeks after entering the hospital. The necropsy showed that the large abscess in the thorax communicated with a large cavity filled with pus in the left lung. The liver, spleen, intestines, and kidneys, were covered with purulent foci varying in size from a lentil to an apple, and containing the same species of fungi. In the kidneys, the convoluted tubes were found in several places to contain embola formed of fungi, though there was as yet no suppuration in their vicinity. There could be no doubt as to the abscesses having been caused directly by the parasites, although it was impossible in this case to find the primary source of infection. The author, however, has offered the following hypothesis. He had noticed before that, in cases of caries of the teeth which had given rise to abscesses in the gums, the pus of the abscesses contained fungi which bore a close resemblance to those which he discovered in this case of pyæmia or septicæmia; this led him to suppose that the patient in question had a carious tooth, whence the fungi might have been aspirated into the lungs, and by some chance into a pneumonic focus which had been caused by the fall, and ultimately have been carried through the system through the medium of the circulation.—*Brit. Med. Jour.*

CHEMISTS AND REGISTRATION.

THE following correspondence has appeared in the 'Chemist and Druggist Journal,' and the 'Pharmaceutical Journal:'

REGISTRATION OF CHEMISTS' ASSISTANTS AS BONÂ FIDE DENTISTS.—Sir,—Having read four letters in reply to mine, I can see but one, F. W. S., who sees the question as regards the registration of assistants in the right light. The legislators of the Dental Act were perfectly willing to recognise existing rights, but not to bring to life rights that had never existed at all, or to induce any person to register himself as a matter of convenience with the view of taking up Dentistry at some future time and thus save himself the necessary education and examination. Nothing was said about preventing chemists or their assistants from extracting teeth (which is the least important part of a Dentist's business), and it was not the least necessary to register in order to continue to do so, and to say the least it is contrary to the laws of common

morality for a person not a Dentist to register as being in *bonâ fide* practice as such. "Lower Molar" says he wrote to Mr. Miller asking if it was necessary to register as a Dentist in order to extract teeth, and that he received the declaration papers in reply, &c., &c. I must call his attention to the fact that it is not the duty of the registrar to answer inquiries or to determine who is legally entitled to register, and that everyone is allowed to fill up the papers as his conscience will allow him, and that on payment of the fee his name is placed on the register *conditionally*, i. e. that his claim will bear investigation. Of course on the publication of the register the Dental Association will take up the matter of illegal registrations, or why should section xxxv be inserted at all? If *bonâ fide* chemists and Dentists, or even chemists who without assuming the title of Dentist merely performed the operation of extraction, have registered as being in *bonâ fide* practice as Dentists, it must surely be allowed that that does not constitute a right for their apprentices and assistants to do the same; the Act was for the protection of the public, and not to raise up an army of ignorant impostors who have sprung into life as Dental practitioners during the passing of the Act, to the detriment of the public and degradation of the legitimate profession.

"Manager" must have a very poor idea of Dental operations when he asserts that they can be performed as ably by dabblers in the art as by any professional Dentist who has devoted all his attention to the *spécialité*. I should like to see very much the chemist's assistant who could put in really reliable gold and amalgam fillings, fill root canals, cap exposed pulps, etc. The old proverb that a "Jack of all trades is generally master of none" is very applicable to the above, and a Ph. C., Dental surgeon, etc., must have as many irons in the fire as he can keep warm. J. J. MUSGRAVE.

Sir,—The writers of the letters relating to the Dental Practitioners Bill in your last issue appear to have all taken up arms rather hastily against Mr. Musgrave.

"Lower Molar" certainly may be in the right in considering himself a Dentist from the mere fact of extracting teeth, but the question is still an open one as to whether when the weeding out of the Dental Register takes place those whose only claim towards registering themselves consists in the fact of their extracting teeth will be considered Dentists by the Medical Council, should information be made against them. The declaration may be made, the fee may be received, but the whole responsibility of such declaration rests upon the person who makes it. Evidently clause

xxxv was inserted from a certain foresight possessed by promoters of the Bill. The spirit of the law will be frustrated perhaps by many; anyhow, Mr. Musgrave gives a friendly warning, to the effect that should the spirit of the Act, which the words *bonâ fide* convey, be carried out, many who are now on the register may possibly find their names erased in future (even if not in the present) edition of the Dental Register. Holders of the certificate must remember that the register alone will be legal evidence. The spirit of the Act appears to have been to protect those men who before its passing had been *bonâ fide* engaged as Dentists, and had called themselves such before the public.

My only object in writing is to uphold Mr. Musgrave's action in writing his letter, and to suggest that those who took up arms against him should wait until they see whether there were any cause for so doing. Mr. Musgrave's opponents appear to have spoken with the dictum of both judge and jury in the matter, so they have hardly a right to be so harsh on him, who as they say, holds simply a brief. After all the only thing to be done is to wait and see. It is said that "the wicked fleeth when no man pursueth."—GEORGE ERNEST CLARKE, Surgeon-Dentist, Woodbridge.—*Pharm. Journ.*

The following leading article appeared in the 'Pharmaceutical Journal,' October 11th, 1879:

REGISTRATION UNDER THE DENTAL ACT.

THE letter which appeared in this journal some weeks since from Mr. Musgrave, was not, in our opinion, either timely or judicious; but having regard to the character of affording full opportunity for the expression of opinion, which we seek to merit by the insertion of letters in our correspondence columns, we allowed that influence to overrule the disposition to treat the letter in question as unsuitable for publication. As might naturally be expected the appearance of Mr. Musgrave's letter has induced a number of correspondents to enter the lists with him for the purpose of controverting the opinions he has put forward. The publication of the letters which appear in the present number of the journal has been unavoidably postponed, and since they were in type we have received many others, but as they are all very much to the same effect as those which have been published, it is unnecessary to occupy more space by inserting them also.

As regards the most prominent topic of Mr. Musgrave's letter, viz. the claim of chemists' assistants to registration as

Dentists, we confess to having some considerable difficulty in coming to a decided conclusion whether or not chemists' assistants should be included among those who constitute the third class of persons described in the Act as entitled to registration under it. So far as concerns the present question, the persons who are there mentioned are such as were at the passing of the Act *bonâ fide* engaged in the practice of Dentistry or Dental surgery in conjunction with pharmacy. It may be contended that the common sense no less than the strict legal interpretation of those words should have reference only to those who were thus engaged in practice on their own account, and that consequently persons acting merely in the capacity of assistants to chemists and druggists who were engaged in the practice of Dentistry would not be included in the terms of the Act, and would not have the same right to registration as their employers. Certainly if this view of the matter were allowed to govern the admission to the Dental Register some very grave injustice would be done to many. It is quite conceivable that a chemist's assistant or apprentice may have acquired by application and experience in the Dental operations that are usually performed by chemists, such skill and competence as to make him fit for registration in accordance with the spirit of the Act. As possessing the ability requisite for doing Dental work, it would be a very hard case if such a person were denied registration upon the ground that his practice had not been *bonâ fide* because it had been carried on for some one else and not solely on his own account.

The hardship of such a case would be the greater, since the Dental Act does not contain any definite provision for admitting persons to registration by means of a modified examination, such as that provided to meet the case of chemists' assistants at the passing of the Pharmacy Act. One of our correspondents, writing from the same point of view as Mr. Musgrave, lays great stress upon the significance of the term "*bonâ fide*," as being well understood by lawyers as one that, far from being lax or ambiguous, sweeps away all ambiguity. We fail altogether to appreciate in this way the import of the words "*bonâ fide*" as used in the Act, but, on the contrary, are disposed to regard these very words as constituting the difficulty to be encountered in reading the Act. The man who has by study and experience become skilful in the performance of Dental operations and has carried them out successfully, as well as to the satisfaction of those operated upon, may well be said to have been "*bonâ fide*" engaged in the practice of Dentistry. Whether he did this as a chemist in business on his own account, or

whether he did it only as a pupil or assistant, does not much matter so far as the common sense view of the matter is concerned ; nor do we think it much matters in regard to the true object and aim of the Dental Act.

We believe from what has been stated by some of our correspondents that many chemists' assistants, who have had training and experience in Dentistry in the way above mentioned, have sought and obtained registration under the Dental Act. Mr. Musgrave's own inquiries have resulted in establishing the same fact. Of course we cannot undertake to say that in all cases the grounds upon which such registration was obtained were what they should have been, nor is it our business to attempt this ; the settlement of any question that may be raised in regard to that point is in the hands of the Medical Council, by which body it will doubtless be conducted with just regard to all the circumstances of the case, rather than with the object of giving undue support to any attempted establishment of a monopoly in Dental practice.

Meanwhile we would suggest to ardent reformers like Mr. Musgrave that it is somewhat premature to talk and write so emphatically about "fraudulent registrations" and to flourish in such an aggressive manner the red flag of the 35th or penal clause of the Dental Act. We fully sympathize with them in their desire to make the practice of Dentistry respectable by confining it to those who possess the requisite skill ; it is but the other day such an undertaking was entered upon by our own body, and it would be ungenerous if we did not accord to Dental reformers the same encouragement which pharmacists have been glad to receive from medical men. But these endeavours to effect reform must not be carried out with a high-handed disregard of antecedent conditions and their consequences. The first great work of the Dental reformers is not to set up a graven image as the ideal standard to which all Dentists must conform, and to insist upon the immediate sacrifice of all that do not so. This achievement may be left for the Dentistry of the future, and present labour must be devoted to the making of a register. We cannot expect nor do we think Dental reformers can hope that this will easily be made a satisfactory roll of persons entitled, in every sense of the word, to practise Dentistry. It is in other ranks than those of chemists and druggists that are to be found the practitioners who have brought discredit upon the Dental branch of the medical profession, and this is so well known that we are at a loss to understand the bitterness with which the Dental practice of

chemists has been fixed upon as a thing to denounce, and if possible to suppress.

Until Dental practice shall have become, under the judicious administration of the Dental Act, a much better regulated occupation than it has been, we do not think there is much probability of Mr. Musgrave's idea of a Dentist will correspond with more than a very small number of the registered persons who are legally qualified to practise Dentistry, and entitled to recover fees for so doing. We fully admit that, from an ideal point of view, the Dentist should have been engaged in every branch of the Dental art, able to undertake any operation, and do any mechanical work that may be required for the mouth by the public; but there is no immediate prospect of the Dental Register being wholly occupied by such men. They must long be content to rank on a legal equality with many inferiors, just as the more accomplished pharmacist is still constrained to accept the legal level prescribed by the Pharmacy Act, and trust to individual excellence for gaining greater recognition than that standard of qualification will afford.

As regards the general public and the existing order of things, Mr. Musgrave's Dentist is to a great extent, if not entirely, the Dentist of the future, and as regards the Dental practice of chemists, there is not a shadow of reason for accepting his definition of what a Dentist should be in the eye of the law. He speaks of chemists that have been pointed out to him who have never done any Dental operation beyond extracting a tooth, and he adds that they probably never saw the inside of a Dental laboratory, know absolutely nothing of "Dentistry" in his sense of the term, and he urges this is inconsistent with the fact that they are registered as having being in *bonâ fide* practice as Dentists. We do not desire to question the good faith which Mr. Musgrave puts forward this argument as an objection to the legal recognition of the chemist as a Dental practitioner, and would only point out its fallacious nature by reference to the circumstance that drawing teeth is pretty well the extent to which Dentistry has been practised by chemists, or to which they are generally called upon to practise Dentistry. It was upon this ground that the Council of the Pharmaceutical Society applied for and obtained the insertion of a clause to enable chemists to continue as they had done, mainly the extraction of teeth and some other operation of Dentistry. But for that clause a chemist who drew teeth would have been to that extent practising as a Dentist, and by holding himself out as doing so by means of a notification on his window he would have been liable to a penalty.

In one and the same breath Mr. Musgrave expresses his contempt for this limited exercise of Dentistry, and yet grudges the chemist registration by which he is enabled to practise it lawfully. This seems to us unreasonable. The very limitation of the chemist's Dental practice which he despises should be a reason for inducing him not to treat the tooth-drawing chemist as an opponent or a rival. At the same time drawing a tooth is a Dental operation, and as the chemist who does it practises Dentistry it seems irrational to leave him outside the operation of the Act by which it is sought to improve Dental practice generally.

We understand the Dental Register has now been published, and that the public, no less than the medical and pharmaceutical communities, will be able to know who is legally qualified to practise Dentistry. That numerous amendments will have to be made, necessitating the early publication of a new edition, may be taken as certain, and if we may accept the intimation of some of our correspondents, the British Dental Association will soon be busy in the search for defective titles. That this should be done we admit is right; but judging from the spirit manifested in some of the letters we have received, it will not be at all less right to suggest that this work of purging the register should be conducted with discretion and justice, under the guidance of common sense rather than of high-flown ideas, and above all without a feeling of animosity against those members of the pharmaceutical body who have been brought into legal confraternity with Dental practitioners more generally and exclusively engaged in the practice of Dentistry.

DENTAL REGISTRATION.—Sir,—Having read with much interest the letters appearing in your columns about Dental registration, I cannot refrain from adding a few remarks.

I think we shall all agree with Mr. Musgrave in doubting whether chemists' assistants or apprentices had any legal right to register, though if, like "Lower Molar," they wrote to Mr. Miller asking the question and received the form of declaration in reply, we can hardly accuse them of a breach of common morality in thus registering, and that having been done, it would be rather unwise, despite Mr. Musgrave's solemn warning, to withdraw their names until the matter is legally decided.

Having had the advantage of a three years' Dental training under an L.D.S., I can understand Mr. Musgrave's annoyance at seeing hundreds of men now legally entitled to claim all the advantages of the Dentist with so little of the expense or trouble of a Dental education, but the Act being

now passed which renders their position perfectly legal, it would be better to recognise it with a good grace than show any perhaps natural jealousy.

All will agree with Mr. Musgrave that the Act was for the protection of the public; but how little he thinks of that when he says he would leave the operation of extraction, which he calls the least important part of the Dentists' business, to the unregistered (Dentally) chemist or his assistant, while he would reserve for the Dentist the less surgical but more remunerative department of putting in reliable gold stoppings, &c.

I fear the public if they could speak on the matter would hardly appreciate Mr. Musgrave's kind consideration for them, but would prefer rather to be protected from the man who by a clumsy extraction fractures the tooth or the alveolar, and causes them weeks of intense pain, than from him who puts in a gold stopping which proves unreliable.

In poor neighbourhoods, where the chemist and Dentist generally does the most practice, the finer branches of the Dental art (gold stopping, exposed pulp capping, &c.) are seldom or never required, the patients could not pay for, even if they could understand, the advantages of them; with them, if the tooth aches they go to the Dentist with the firm determination of having it out, and they would have no faith in the man who recommended any other treatment. Mr. Musgrave may have his own definition of a Dentist, but let me say that with the great majority of the public the extraction of the tooth is considered the primary and most important branch of the Dental art, and if asked to describe their Dentist they would say "the man who pulls out their teeth."

The chemist and Dentist as a rule does not pretend to practise every branch of Dentistry; if he has the knowledge he has not the time for it, but generally confines himself to the surgical part (extracting, stopping, scaling, &c.), getting the mechanical (artificial teeth, etc.) made for him by some working Dentist, and Mr. Musgrave can hardly be astonished when he finds men who successfully perform most of the operations of Dental surgery politely spoken of by the "professional Dentist" as "dabblers in the art."

Unfortunately we have not all received Mr. Musgrave's kind advice in the spirit in which he says it was intended, and I am sure we shall all cordially hope that for the future he will have so much to do warming his irons in his own fire as to have no time for thrusting any into ours.—A. P. PENROSE, Ph. C. and Dentist.—Amwell Street, E.C.

Miscellanea.

MR. FOX AND THE BRITISH DENTAL ASSOCIATION.

THE following letter has been addressed by Mr. Fox to James Smith Turner, Esq., Secretary to the British Dental Association :

Dear Sir,—I feel that I must ask you to remove my name from the list of members of the “British Dental Association,” and from the list of the members of the Administrative Board thereof; and I will further trespass on your kindness by asking you to notify this my resignation to my late colleagues on that Board.

When at the meeting of March 3rd, 1879 (which I did not attend), it was resolved to establish the British Dental Association, those present did me the honour of electing me as one of the Representative Board—an honour for the kindly intent of which I now most sincerely beg to thank them. At that time I was lying ill almost to death, and although, even then, an instinctive feeling told me I could hardly accept the position offered me, in consistency with my past writings in the ‘British Journal of Dental Science,’ I tacitly acquiesced, being in my weakness overruled by the urging of many kind friends. A period of feeble convalescence, extending over many months, left me still unable to realise the inconsistency of my position, and I was even induced to send you my signature as an adherent to the new society; but when lately, with recovered health and strength, I found myself sufficiently restored to be able to give that calm reflection to the subject which it required, I saw the inconsistencies into which in my days of weakness I had been led; and I now take the earliest opportunity of withdrawing my name from an association which in my humble opinion is opposed in every sense to the principles upon which my first draft of the Dental Act, made in November, 1870, was based, and to the principles upon which ALONE Sir John Lubbock himself has declared the Bill could have become law—that is, the recognition of all existing rights.

I shall send a copy of this letter for publication in the ‘British Journal of Dental Science,’ although I am well aware that by doing so I shall expose myself to a wide extent of attack and misrepresentation.

I am, dear Sir,

Yours faithfully,

CHARLES JAMES FOX.

THE 'DENTISTS REGISTER.'

WE have received a copy of this important and interesting publication. The following *résumé* of its contents is from the 'Medical Times and Gazette,' but we can fully endorse the tribute of praise therein accorded to our most courteous and painstaking registrar, Mr. Miller.

The first 'Dentists Register,' printed and published under the direction of the General Council of Medical Education and Registration of the United Kingdom, has just appeared and will doubtless be examined with some eagerness and curiosity by very many medical men who are directly concerned in its contents. The work is got up with all the care and completeness that invariably characterise the work of the Registrar of the Medical Council, and gives much information besides that contained in the 'Dentists Register.' From a table showing the number and qualifications of persons registered up to August 1st, 1879, we learn that 5289 persons were at that date on the 'Dentists Register,' of whom 483, or 9·13 per cent., were Licentiates in Dentistry; and 4806, or 90·87 per cent., were "*bona-fide* Dental practitioners." Of these 4806 persons, on their own declaration in the *bonâ fide* practice of Dentistry, 2707, or 51·18 per cent., practised Dentistry separately; 17, or 0·32 per cent., in conjunction with medicine; 11, or 0·21 per cent., with surgery; 20, or 0·38 per cent., with medicine and surgery; only 2, or 0·04 per cent., with surgery and pharmacy; and 2049, or 38·74 per cent., in conjunction with the practice of pharmacy. Of these 5289 "United Kingdom Dentists," two died before August 1st; but two foreign Dentists obtained registration, so the total number remaining in the 'Dentists Register' of 1879 is 5289. Of the United Kingdom Dentists, 5165, or 97·62 per cent., are resident or engaged in practice within the United Kingdom; and 126, or 2·38 per cent., beyond the limits of the kingdom. The two foreign Dentists are Doctors of Dental Medicine of the University of Harvard.

EDINBURGH DENTAL HOSPITAL AND SCHOOL,
30, CHAMBERS STREET.

PROSPECTUS, 1879-1880.—We have received with pleasure the first prospectus issued by this institution, and congratulate its promoters on the speed and excellence of their work. We do not make any extracts from it, as the substance of it

will be found at p. 474 of our Students' issue, September 1879, and copies of the prospectus can be obtained on application to W. Chisholm, Esq., L.R.C.P. and S.E., L.D.S. Eng., the Dental Secretary.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

SEVERAL correspondents have written to us pointing out that it is a frequent custom of the licentiates in Dental Surgery of the Irish College to drop the initial "I.," which denotes the source whence their Diploma has been obtained. By this practice many are supposed to belong to the Royal College of Surgeons of England. We are further reminded that all the Irish licentiates have not registered their title in the Dentists Register, and those that have, are so scattered about the book that it is not convenient for reference on this subject, and therefore the separate publication of this list would be of advantage to the English and Scotch licentiates; and as we are also informed—how correctly we know not—that the Calendar of the Royal College of Surgeons in Ireland will not be published till the end of the year, we now subjoin the list, which we have rendered as correct as we can, but cannot in any way vouch for its accuracy, nor can we spare space for the publication of the full addresses, which would take several pages, the names and localities being sufficient for identification.

Amore, D. W., Hastings	Coker, T. V., Clifton, Bristol
Albert, J. V., Brompton rd	Crowther, G. H., Wakefield
Ayres, E., Gt. Portland st	Councell, E. A., Bristol
Alder, C., Liverpool	Clarke, junr., I. W., Clifton,
Ash, E. T., Brighton	Bristol
Albert, G., Brixton road	Canton, W. C., Old Kent rd
Bradshaw, R., Great Marl-	Church, D., Dublin
borough street	Cronin, A., New Bond street
Benham, G. A. C., Leeds	Coles, R. S., Plymouth
Bloom, M. J., Dublin	Castellate, B., Clapham Junc-
Balcomb, T., Jersey	tion
Bayfield, C. M., Talbot road,	Crapper, J. S., Hanley, Staff.
Westbourne park	Conrath, F. W., Bayswater
Brown, J., Manchester	Chapman, W. W., Armagh
Bacon, W. B., Tunbridge	Dreschfeld, T., Manchester
Wells	Dally, F., Wolverhampton
Brindley, F. W., Sheffield	Dainty, J., Uxbridge
Beavis, G., Newport, Mon.	Dew, E. J., Weston-super-
Batchelor, F. R., Birmingham	Mare
Bates, W., Macclesfield	Durandu, J. E., Liverpool

Dopson, D., Liverpool	Little, E., Bristol
Douglas, E. C., Brighton	Longford, J. H., Dublin
Dagnell, G. C., S. Kensington	Levason, A. G., Hereford
Dilcock, T., Liverpool	Limbert, E. H., Holloway rd
Egan, L. J., Cork	Lloyd, T. I., Preston
Farnsworth, C., Manchester	Laws, J., Weymouth
Faulkner, J., Mornington crescent	Moxon, H. J., New Kent rd
Foran, J. C., Eastbourne	Moore, J. H., Paris
Fitzgerald, J. J., Edgeware rd.	Mahonie, T., Sheffield
Goepel, J. R., Liverpool	Murphy, T., Bolton.
Grey, E. J., Cheltenham	Masters, J., Manchester
Gabell, A., Redhill, Surrey	Molloy, J. H., Manchester
Gregory, E. J., Cheltenham	Machin, L., Worcester
Headridge, W., Manchester	Mallin, G. P., Monmouth road, Bayswater
Hooton, J., Manchester	Morrison, R. P., Barnstaple
Hayman, C., Bristol	M'Burney, J. S. B., Isle of Man
Hayman, S. J., Clifton	M'Owen, W., Blackburn
Huet, F. A., Manchester	Newman, W. J., Liverpool
Hinton, F. W., Clifton	Nottingham, J. F., Penton- ville road
Hockley, A. G., Great Marl- borough street	O'Duffy, J., Dublin
Headridge, P., Manchester	O'Hara, W. J., Leicester
Hartley, W., Southport	Pierrepoint, E., Manchester
Hayman, A. G., Clifton	Parson, W. M., Bristol
Helgan, H., Haverfordwest, South Wales	Palmer, J. E., Gosport
Harding, W. P., Carnarvon, North Wales	Planck, H., Manchester
Helgear, W., Bristol	Pritchard, J. W., Old Bur- lington street
Hamilton, J., Tavistock st., Bedford square	Parson, T. C., Clifton, Bristol
Hayman, H., Clifton	Partridge, H. F., South Ken- sington
Hatton, F. J., Bristol	Penfold, W., Dorset street; Portman square
Harrison, J., Sheffield	Pallant, A., Maidenhead
Halliday, H., Gloster road, Regents Park	Perkins, J. H., Taunton
Jonston, M., Chester	Rogers, R., Cheltenham
Kelly, T. M., Manchester	Redman, J. H., Brighton
Kelly, W., Manchester	Roberts, J. G., Liverpool
King, C. N., Exeter	Renshaw, I., Rochdale
King, H. A., Manchester	Richardson, F., Derby
King, R., Shrewsbury	Rooke, J. H., Bayswater
Knott, E. H., Brighton	Robinson, F., Blackheath
Kekwick, J. F., Rugby	Rutherford, C. F., Chelsea
Lawrence, H. A., Notting- hill	Smith, A., Clifton, Bristol
	Saunders, W., Ramsgate

Steele, G. H., Richmond	Waite, W. H., Liverpool
Street, G. H., Richmond	Wedgewood, J. J., George
Shillcock, J. W., Green st.,	street, Hanover square
Grosvenor sq.	Wormald, S., Stockport
Smith, C., Manchester	Williams, E. H., Manchester
Springfield, W., Lowestoft	Wilson, J. A., Bangor, N.
Saunders, J. H., Bangor, N.	Wales
Wales	Wormald, T., East Oldham
Stoner, J. N., Brighton	Wells, J., Berwick-on-Tweed
Stokes, C. H., Monte Video	Wormald, D. A., Bury, Lan-
Shillcock, E., Green street,	cashire
Grosvenor square	Woodhouse, W. H., Hanover
Sumerling, A., Leek, Staffe	square
Tamsworth, C., Manchester	Williams, J., Manchester
Trissell, E., Weston-super-	Whatford, J. T., Brighton
Mare	Wood, J., Brighton
Taylor, F., St. Barbe, Dublin	Wood, Jnr., W. R., Brighton
Visick, A. B., Brooke st.,	Wood, J., Dumfries
Grosvenor square	Wilson, G., Strand
Verrier, A. B., Weymouth	Wilson, G., Hull
Vanderpant, F. J., Kings-	Young, J. C., Warrington
ton-on-Thames	

CLINICAL LECTURES AT THE NATIONAL DENTAL HOSPITAL.

THE programme of Clinical Lectures to be delivered at this Hospital during the present Winter Session is as follows:

Oct. 8th.—The Removal of Tartar, by Mr. G. J. WILLIAMS.

Oct. 21st.—Alveolar Abscess, by Mr. OAKLEY COLES.

Nov. 22nd.—Extraction of Teeth, by Mr. HARRY ROSE.

Dec. 1st.—Various Causes by which Teeth become Loosened,
by Mr. F. HENRI WEISS.

Dec. 16th.—Fractures of the Jaws, by Mr. C. J. NOBLE.

Date not fixed.—Pyorrhœa Alveolaris, or so-called "Riggs' Disease," by Dr. G. W. FIELD.

Jan. 23rd, 1880.—Tumours of the Mouth, by Mr. GADDES.

Other Clinical Lectures will be delivered during the Session, but arrangements are not yet completed.

THE DENTAL REFORM COMMITTEE.

THIS Committee will finally meet on Monday, October 27th, at 4 p.m., at 40, Leicester Square, for the purpose of closing up all business and financial matters appertaining thereto, and at 5 p.m. on the same day a meeting of the Representative Board of the British Dental Association will be held.

WE ARE PLEASED to acknowledge a visit from Dr. A. H. Best, of Savannah, Ga., U.S.A., who is on a short visit to Europe. Dr. Best has kindly shown us some very beautiful specimens of his work in celluloid, and we must say that in style and finish we have never seen them equalled, and we believe our opinion in this matter to be fully endorsed by all who have seen this work. One important peculiarity of this work is that it possesses a finish that is remarkable for its membrane-like appearance; thus giving results in celluloid not hitherto produced in any other material. We are pleased to notice the progress that celluloid has recently made, and trust that with the increased demands for a material of better colour than rubber, we shall eventually be able to overcome all the unreliable qualities that have hitherto been believed to be inseparable from this substance as a base for artificial teeth. We think we can safely say that the qualities exhibited in the specimens shown by Dr. Best are not to be disregarded, especially by those by whom Dentistry is considered as an art.

KING'S COLLEGE.—At the competitive examination at this College, held on June 21, 1879, Mr. Bertram Stivens, son of Mr. Stivens, of Chester, and a pupil of the Dental Hospital of London, obtained the prize in obstetric medicine and a special certificate in practical physiology, together with a special certificate for physiology the preceding winter season.

POND'S EXTRACT.—If any operator has had any experience with the above in cases where phenate of soda is generally used, he would oblige many by stating his results.—THOS. FLETCHER.

APPOINTMENTS.

Mr. C. J. Noble, L.D.S. Eng., has been appointed Assistant Dental Surgeon to the National Dental Hospital.

Mr. J. F. Kekwick, L.D.S.I., has been appointed by the Council of the Rugby Hospital as Honorary Dental Surgeon to that Institution, and to the Rugby Provident Dispensary.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—The specious letter of "J. C. V.," entitled a "Plea for Advertising," commences to treat the subject by asking—

"What would have been the position occupied by the Dental profession at the present moment" but for advertising? I cannot answer this question, but this much I can do, I can point to the degraded position of the Dental profession at the present moment, and say that it is the result of advertising, and that, I think, is more to the purpose than speculating as to what it might have been without advertising. Further, I say that this mania for advertising, and the special pleading in its behalf, is one of the worst symptoms of professional degradation. The only plea for advertising worth listening to is that it is a bold assertion of the lowest order of selfishness. It is all very well to claim for the advertiser the present widespread demand for Dental aid. But, sir, has the object of the horde of advertisers, from the man who publishes his "card" to the man who boasts his great skill and small fees, ever been to diffuse a knowledge of Dentistry to the ignorant public? Has it not been rather to induce an ignorant public to seek their aid and theirs only? If the first object had been in view (and this supposition can alone justify the plea of "J. C. V.") then the blessings of Dentistry could have been published abroad in the true philanthropic style, by paragraphs, pamphlets, tracts, and even by street preaching, without any name or address being given. The plea, however, works its own destruction as the pleading goes on.

After assuming that the number of persons wearing artificial teeth is to be attributed to the aggressive education of the advertiser (for it is only an assumption), the pleader says that the large extent to which Dental materials are now manufactured, and all the improvements and inventions which have been introduced to the profession are due to advertising. I wonder how many of the inventions and improvements introduced since the days of carved bone have come from the brains of advertisers. According to my experience these worthies have been only too ready to lay claim in the most impudent manner possible to the improvements of the thinking and producing part of the profession rather than to contribute to its advancement in any way. But, sir, if the bushels of mineral teeth and the tons of materials now turned out by our manufacturers be the outcome of advertising enterprise, surely the object of its existence has been gained. Surely the public has been sufficiently educated now, and the profession which has been so long sacrificed to public ignorance may be considered worthy of a turn. It may also appear to some minds that making mineral teeth by the bushel and materials by the ton is not the highest or most worthy object of a Dentist's

ambition, and if the articles alluded to by "J. C. V." were required in smaller quantities, and the natural organs preserved to a greater extent than at present, the true Dentist would be better pleased, even though the advertiser were thereby deprived of some of the glory which the extensive manufacture of mineral teeth is supposed to shed around him. The horror which "J. C. V." has of dishonest advertisements is only an expression of that self-deception which tries to make a wrong right by comparing it with some abuse of a more flagrant character.

Honesty and dishonesty may have a legal definition, but when they come to be employed in the sphere of morals they are liable to various interpretations, according to the mental peculiarity or self-interest of the individuals concerned. "Touch not the unclean thing" is the only way to deal with this question. Whether honest or dishonest advertising is generally regarded as unprofessional, and is, therefore, an outrage on all true professional feeling. The comparison between doctors and Dentists is another of those hollow windbags by which "J. C. V." seeks to bolster up unprofessional conduct. He is as ready to compare us with grocers and drapers when it suits his purpose; but I think we will survive the comparison, and advertising will pass away from among us. Other professions exist, and their members serve the public without this beggarly method of announcing their existence. Surely the legal profession is extensively employed; the architect, too, and the stock-broker, and the accountant, are all found by such of the public as require their services without the degrading system of touting, which seems to find favour among some of our profession, who wish to be thought professional men, but shrink from adopting the responsibilities which belong to the position.

I am, &c.,

FATHER O.

DENTAL REGISTRATION AND THE CHEMISTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Can you inform me if it was legal for *all* chemists to register as Dentists, should they desire to do so, before August, 1879?

In this town—and, no doubt, it is the same elsewhere—almost every chemist, and also many of their assistants, have obtained registration. No doubt some of them have an idea how to extract a tooth, but as regards scaling, stopping, and mechanical work, they are altogether ignorant. Being registered, they can (should they deem it expedient) procure the services of an assistant and practise Dentistry in all its

branches, thus depriving *bonâ fide* Dentists of the privileges conferred on them by the passing of the Dentists Act.

In my opinion, the names of persons registered on the ground of being simply a chemist ought to be struck off the register, and I ask you, sir, is it right that they should be allowed to remain on?

Yours, &c.,

JUSTITIA.

Huddersfield; September 24th, 1879.

[The words of the Act are—that “any person who is, at the passing of this Act, *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, shall be entitled to be registered under this Act.” The whole question will turn upon the interpretation of the words “*bonâ fide*” and pharmacy; what that interpretation will be time only can show.—ED. B. J. D. S.]

To the Editor of the ‘British Journal of Dental Science.’

SIR,—I think it would very materially assist the Dental Association if we had sub-committees appointed in each of the large towns for the purpose of eliminating from the Register persons who have no more right to be on than I have to dub myself F.R.C.S. I know that Dr. Merryweather, as representing this district in the committee, has been at a deal of trouble and given much of his time before the passing of the Act, but it is not to be expected that one man can collect all the necessary evidence in a large town. Of course, individually, I shall do all I can, but it would be much better to have a sort of sub-committee in this and other large places.

Excuse my diverging to thank you for the boon you have conferred on the profession by your fortnightly issue, and hope you will meet with your well-merited success.

I am, &c.,

W. F. BRINDLEY.

Sheffield; October 4th, 1879.

THE MEDICAL STUDENT.

To the Editor of the ‘British Journal of Dental Science.’

SIR,—In to-day’s paper there is an extract from the pages of the ‘Lancet,’ which seems to me strongly to savour of dull times, and saying “something” to fill up the paper. I send it for your perusal. The writer says:

“There is no career more honorable, useful, and ennobling than that of the medical practitioner who makes science his object and regards humanity as his mission. There may be other vocations more brilliant, of greater social dignity and higher historic prestige,

but none can compete with that which lies before the student of medicine for purity, goodness, manliness, and virtue. If the young man standing at the outer gate of our profession does not thus esteem it, he will do wisely, for himself and others, to retire. It is a good test of the earnestness and honesty of youth if it will bear a little plain speaking. We are not of those who think lightly of the profession and its aims. We cannot welcome to its ranks men who seek to enter simply with a view to 'make a living' or 'adopt a career.' Medicine is not a calling for the needy or for the avaricious. It requires substantial private resources, and has little but disappointment and temptation to offer to the impecunious and those who haste to be rich. A modest competence at least, patience, and a sterling love of science are the requirements we would set down as indispensable to a prosperous and useful future."

Now, sir, what in the name of common sense is all this?

Do we want or expect all students of medicine to enter as philanthropists? I always imagined that the labourer was worthy of his hire; and, knowing how hard it is for a man to make a name, how many people there are amongst the well-to-do who expect and obtain (*far too frequently*) gratuitous medical advice, and who take such matters as a right. I ask the writer in the 'Lancet' wherein is the sin of a man making a living by the honorable pursuit of his profession, and why should a young man hesitate to give the preference to medicine when called on by force of circumstances to decide for himself a calling, or, in the writer's words, to "adopt a career?"

We follow the paragraph further, and read that "it requires substantial private resources," and again, "*A modest competence at least*, patience, and a sterling love of science are the requirements." Kindly mark the order in which they are set down, and we have a clue to the whole mystery.

Henceforth let no young gentleman, however full his head may be of brains, dare to go up for examination to the College of Surgeons or Physicians, who cannot give satisfactory references to his banker as to the state of his account.

This must be "the preliminary," which, if he be not prepared to pass, lo! the gates will not open to his knocking.

Surely the writer of this is one of the ultra-conservative class, who would fain narrow the liberal professions down to their own absurdly exclusive ideas.

It is, of course, well to encourage men of some means to devote themselves to the science of medicine, but I should very much question that the most earnest workers are to be found in the ranks of the well-to-do and the easy-going. The whole history of medical science, I imagine, tells quite another tale; and shall one word of discouragement be written to those who have entered the profession without

better weapons than their predecessors, good heads and hearts? The idea is snobbish—it is worse, it is mischievous. No one will, on the other hand, have any sympathy with the man who makes money his chief aim; but a man must *live*, and he should *not* be ashamed to reap the honest fruits of his labours.

There is a deal of mawkish sentiment going about, and if one thing *ought* to be written down it is the myriads of people there are, who, by hook or crook, contrive to obtain the valuable services of a medical man gratuitously, not being really of the necessitous classes; and, acting a mean and demoralising part, lose eventually that independence of thought which is the essence of all self-respect.

Greedily will they accede to all this. I read recently a remarkably good article in 'Chambers' Journal' for September, bearing on this subject—"The Free Hospital System."

One word about the adopting it as a *career*. The great Abernethy was anxious to follow the law (see his memoirs by Macilwain); his father insisted on the medical profession, and no man ever pursued a more honorable career. Yet he was not one of those who possessed, so far as I can see, any competence whatever on entering his career. In one of his addresses to the students I read the following noble, *not* mawkish, words. I give them without further comment:—"I place before you the most animating incentive I know of, that is, the enviable power of being extensively useful to your fellow-creatures." This power is still possessed by every one who honestly does his simple duty in his vocation.

Yours &c.,

E. M. Tod.

THE CANADIAN L.D.S.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As the mail for England closes in a few hours, I have only a moment to reply to the letter of my friend, Mr. J. B. Willmott, Secretary of the Royal College of Dental Surgeons of Ontario, Canada, in your issue of September 15th, just received. I regret that he, as well as excited practitioners away in South Africa, should have put a construction upon my letter in your May number which I never intended it should have.

A correspondent in your February issue stated he had seen in England an unprofessional circular of an "L.D.S., Royal College of Dental Surgeons, Canada." Letters I had received from English correspondents led me to believe that there was some confusion at home as to the two Dental licenses held in Canada. By many they were thought to be

identical; and, in fact, when in England a few years ago I was frequently reminded that this erroneous impression prevailed. At the time there were applications from members of the "Dental Association of the Province of Quebec" for English registration, and, as secretary, I had to show the distinction between the two Acts of Incorporation, &c. It was necessary, too, to show that any Canadian licences held in England, such as that mentioned by J. C., did not in any single case emanate from our Quebec Association, but that in every case we had rejected such applications.

Any allusion I made to the issue of diplomas by the R. C. D. S. Ont. was intended to read in the past tense. The question was raised as to the existence of certain Canadian Dental diplomas in England. I attempted to account for their existence by stating a fact.

My friend, Mr. Willmott, however, should have added to his letter that while it is true that the R. C. D. S. Ont. *do not* now grant licences to "Dentists abroad without examination" *it once did*, and that my statement is not "entirely incorrect." It is a fact that licences of the R. C. D. S. Ont. exist in England. It is also a fact that there is no licence there of the Quebec Association. No real blame can be attached now to any one for the action of the old Board of Ontario. The Act of Incorporation was new, and its provisions misunderstood. But merely to show that my statement was not "entirely incorrect," I telegraphed this morning to the President of the Ontario Board, Mr. Chittenden, asking him if the old Board had not granted licences to Dentists in England without examination. I have just received this answer, "We did, but it was illegal." Hastily turning over the 'Canada Journal of Dental Science' I found that in August, 1869, a licence was granted to W. H. Waite, D.D.S., Liverpool, and the report reads thus—"he having complied with the rules of the Board." On the 18th of January, 1870, licences were granted in the same way to Joseph Maurice and Walter John Woodman, of London, to Geo. Gilbert, Gibraltar, and Wm. J. Newman, Dentist to the Liverpool Dental Hospital; while in a 'Report of the Proceedings of the R. C. D. S. Ont.,' by J. B. Willmott, Secretary, in the November number, 1870, I found the following:—"Seven new and five old applications for licence *as five years practitioners* were before the Board. Seven were granted licence as follows." And after the names of five Canadian residents come the names of James C. Parsons and Lawrence Vanderpant, of England. Others were granted; I have not access to them at present. I must say that we Quebec provincialists were nearly making the

same mistake as the Ontario Board. Different legal advice saved us.

I hope in the haste with which I am obliged to write I have clearly explained myself. As a body, we Quebecers are deeply indebted to the Ontario pioneers in legislation, and I cannot pay too high a tribute to their zeal and honour. To them we owe our own corporate existence, as we simply copied their act, and followed their lead. And I am sure no one now regrets more than they that any licences were "granted to Dentists abroad without examination."

Yours &c.,

W. GEO. BEERS.

Montreal.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have the 'Dentists Register,' but as the Irish licentiates in Dental surgery are necessarily scattered through its pages, I think the English and Scotch licentiates would be thankful if you would publish the list of Irish licentiates, so that we may know who they are, seeing that, as a rule, they do not seem sufficiently proud of their college to add the initial I., and with the simple L.D.S.R.C.S. sail, in the eyes of the public, under the honours of our English diploma.

I am, &c.,

L.D.S. ENG.

To Correspondents.

ANSWERS TO CORRESPONDENTS.

G. B. PEARMAN AND W. F. BRINDLEY.—In our next.

Communications received from Messrs. W. Chisholm (Edinburgh), James Smith Turner, G. B. Pearman, W. G. Gordon Jones, "L.D.S. Eng.," L. Vanderpant, Bertram Stivens, W. G. Beers, "J. T. H.," E. M. Tod, M. Davis, T. Gaddes, W. F. Brindley, T. Fletcher, Eimer R. Showler, "Justitia," "Father O.," John Wood (Dumfries), Dr. Edward H. Bowne, Dr. Best.

BOOKS AND PAPERS RECEIVED.

- 'Mathematical Questions, with Solutions.' Edited by W. J. C. Miller, B.A., Registrar of the General Medical Council.
- 'The Dental Profession, as affected by the Dental Practitioners Act of 1878.' By Frank Richardson, L.D.S., R.C.S.I.
- 'Rochdale Observer.'
- 'Educational Times.'
- 'Journal of Chemical Society.'
- 'Segundo Anuncio Anual.' Setima Sesión del Colegio Español de Dentistas, Madrid.
- 'Edinburgh Dental Hospital and School Prospectus.'
- 'Glasgow Medical Journal.'
- 'Dental Cosmos.'
- 'Gazette Odontologique.'

British Journal of Dental Science.

No. 283. LONDON, NOVEMBER 1, 1879. VOL. XXII.

Dental Surgery and Medicine.

GOLD CAPS FOR PLASTIC FILLINGS.

By A. H. BEST, M.D., Savannah, Ga., U.S.A.

I NOTICE an article on this subject in your Journal of October 15th, and as the subject has received some attention in America it might be interesting to some of your readers to know the results.

This mode of treating plastic fillings is the subject of a patent by a Dr. Noble, of Brunswick, Ga., U.S.A., and previous to his death, which occurred in 1876, he used caps extensively, and, of course, with varied results. He was very sanguine as to the future of the process, and claimed for it universal success.

His cap was made of gold, formed to fit the cavity, and slightly overlapping the margins. To the underside he soldered staples or pins to anchor the cap in position.

He used as a filling material either osteo-plastic or gutta percha. The tooth was filled in the ordinary manner and the cap gently pressed into position. Where gutta percha was used, the cap was warmed before being placed in position.

I think I can safely say that the greater portion of teeth filled in this manner by Dr. Noble himself has since failed, this failure being due, perhaps, to insecurity of anchorage material, as well as the fact that the overlapping of the margin of the cavity allowed the cap to project from the surface of the tooth. Under these circumstances the cap soon became loose and leaky at the margin, the general result being a loss of the filling. The system, nevertheless, seems to be beautifully adapted for that class of teeth where caries has progressed to such an extent as to render the filling with gold not only tedious and unremunerative, but really impracticable and unsuccessful, but still, where it is desirable to do more than simply fill with amalgam.

The caps, when used for large cavities, such as the complete restoration of crowns of molars or bicuspid, or incisors, if desirable, can be made very effective, and if the surroundings are healthy, and it is properly fitted and secured by the use of a *good amalgam*, they are usually very prominent.

In all cases it is, perhaps, better to make the cap to fit the tooth. This can be done by taking an accurate impression of the remaining portion of the tooth. If irregularities exist in the surface of the cavity which it is thought desirable to preserve, they may be temporarily filled with any convenient preparation, after which the impression can be taken.

Having procured a sharp metal model, make the cap to fit. The articulation can be arranged by trying the cap in the mouth, and when it is made to fit accurately, and the articulation is correct, apply the rubber dam and fill the cavity with amalgam, absorb the surplus mercury from the surface with tin foil, and when sufficiently dry not to affect the colour of the gold, warm the cap and press it gently into the proper position. Be sure the space under the cap is filled, and do not allow the amalgam to insinuate itself between the edge of the tooth and the cap. Everything being satisfactorily accomplished, varnish the edges, and instruct the patient not to use it for, say, twenty-four hours. Remove your rubber, and you have a beautiful operation.

It is always best, in making an entire crown, to make a tight-fitting band around the neck of the tooth. The crown may also be made more secure by one or more screws being placed in the roots as an anchorage.

CASE OF RETARDED ERUPTION.

By C. VINCENT COTTERELL, Esq.

THE following case, which recently occurred in my practice, is interesting, not only as a case of retarded eruption, but also from the deformity produced by the teeth becoming loose.

M. P—, æt. 28, is a domestic servant. She came to me in July last complaining that some of her teeth had become loose and fallen out.

Upon examining her mouth I found that, in the upper jaw, all four incisors were wanting, and only one bicuspid on each side was cut, while the second temporary molar on the left side was present. In the lower jaw the two central

and left lateral incisors were very elongated, loose, and a small quantity of pus was exuding around their necks. The left canine was pushed forward considerably beyond the line of the jaw, and the point directed forwards and upwards, as though something was pushing it out from behind. The first bicuspid on the left side was only partly erupted. On the right side there was only the first bicuspid present.

The previous history of the case is rather meagre. At the age of twenty, eight years ago, she was salivated with mercury, but for what reason she could not satisfactorily explain. At the age of twenty-one the upper central incisors began to open, became loose, and finally drop out.

My treatment of the case was as follows:—I extracted the two left upper and lower temporary molars and the right and left centrals, left lateral and left canine of the lower jaw, as they were very loose. After waiting for about two months the mouth was found to be well healed, and as there was no sign of any more teeth loosening, or of the bicuspids erupting, I took models of both jaws and put in artificial work to fill up vacancies caused by extractions and teeth falling out.

26, Upper Wimpole Street, W.;
October 20th, 1879.

CASE IN PRACTICE.

By GEORGE BEAVIS, Esq., L.D.S.I.

A YOUNG lady, about fifteen years of age, came to me with an abscess over the upper central incisor; the gum boil had recently broken, and a considerable discharge was taking place. I extracted the tooth, cut off the end of the root, drilled out the nerve, and filled canal and cavity, applied carbolic acid to socket of tooth, then tinct. iodine and tinct. aconite mixed, until the pain had subsided. The tooth, which had been cleansed in a solution of carbolic acid and afterwards placed in warm water, was then replaced. It is now nearly twelve months since the replacement, and the patient has never had the slightest pain; the gum is perfectly healed, in fact, no one could tell there had ever been anything the matter with the tooth except that it had been filled.

Newport, Monmouth.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM SEPTEMBER 1ST TO SEPTEMBER 30TH, 1879.

Extractions	{ Children under 14	611
	{ Adults	956
Under Nitrous Oxide		306
Gold Stoppings.....		47
White Foil ditto		3
Plastic ditto		260
Irregularities of the Teeth treated mechanically		16
Miscellaneous Cases		266
Advice Cases		79

Total..... 2544

JOHN H. McCALL,
Dental House Surgeon.

British Journal of Dental Science.

LONDON, NOVEMBER 1, 1879.

THE "Chemist and Druggist" Journal observes that we have republished the correspondence that appeared in its pages and those of the 'Pharmaceutical Journal' relating to the question of chemists being entered on the Dental Register, but without comments thereon. We have purposely and advisedly abstained from any remarks on the subject, seeing that anything we could say on such a matter would only be the expression of an individual opinion on a question which has as many sides to it as there are parties interested in it.

It has been said that the whole question turns upon the definition of the term *bonâ fide*, and each one defines this according to its bearing upon his own immediate views, experience, or prejudice. Appeal is made to the Dictionary by some, whilst others are content with an appeal to what they term "common sense." Then, again, there is the much-

disputed meaning of the words "existing rights," some contending that, although the Dentists Act was passed to recognise existing rights, it was not intended to create rights that never existed. On the other hand, we have heard it said that at the time of the passing of the Act *every* one had a perfect right to call himself a Dentist without let or hindrance from the law, and, therefore, to interfere now with any such person is really to interfere with an existing right. Again, what constitutes the *practice* of Dentistry? One says that the mere extraction of teeth is not the practice of Dentistry; another claims that it is the most important part of the specialty.

All these variety of questions can only be settled by an appeal to the law, and by that we do not mean the opinion of lawyers—that will vary with the interests of their clients; and we may expect to have some very strong arguments advanced on both sides. But then will have to come the final decision of the judges, and until that is given it would be absurd for us to attempt to give an *ex cathedra* opinion. We trust, then, that the Investigating Committee of the Medical Council will lose no time in bringing the matter to a settlement. Practically this Committee can decide the question themselves, subject only to the approval of the General Medical Council, and on their diction alone hundreds may be struck off the Register, without any more definite settlement of the various points than can be obtained by the decision of five clever heads accustomed to think and argue coolly and logically; and there will be no chance of a judicial decision unless some one of the expunged parties has the pluck and the money to challenge the decision of the Council in a court of law. This is scarcely to be expected, as the parties who will be attacked are chiefly people of little note or importance, without either position or money.

We see by the remarks of some of the correspondents that it is supposed that the power of expunging rests with the British Dental Association, but this is by no means the fact. That association can only act as detectives and informants to the General Medical Council for the good of their neigh-

bours and the public at large, and we trust they will lose no time in getting over, what gentlemen of such refinement as those who sit on the executive of the British Dental Association must feel to be a most repugnant and unpleasant duty, which is sure to rouse a great deal of personal and local ill-will, cause the loss of much valuable time and money, and divert attention from the improvement of the education and training of the rising generation, and the pursuit of those scientific investigations which will enable the Dentist to be of more practical value to the public.

Literary Notices and Selections.

CHEMISTS AND REGISTRATION.

THE following correspondence has appeared in the 'Pharmaceutical Journal':

SIR,—As one who has lent his aid to the passing of the Dentists Act, I beg to thank you for your timely and temperate article on "Registration under the Dentists Act" in your issue of the 11th.

I believe I know the disposition and intentions of the promoters of this Act, and feel sure that their views are of the most liberal nature regarding the scope of registration privileges, and that nothing but the most urgent sense of duty towards the public—for whose protection the Act was primarily framed—and the Dental profession will ever induce them to put the penal clause of the Act in force against anyone.

I feel sure of the support of every promotor of the Dentists Act when I say that I most heartily endorse the concluding sentence of your article, and I assure you, sir, that there is no feeling of animosity existing against "those members of the pharmaceutical body who have been brought into legal confraternity" with us. It is well known to all that many of those gentlemen are much more professional in their views and conduct than many who have come upon the register with the undoubted right to call themselves Dentists pure and simple. Moreover, many pharmaceutical chemists and Dentists have used their interest and freely

given of their means to help the passing of the Dentists Act, and I think that such men, as well as all who can establish their *bonâ fides*, would have reasonable cause of complaint if the Dentists Register becomes a refuge for those who cannot find a place on your own special register.

I do not think that a youth who has been engaged in bottle washing and in sweeping a chemist's shop, and who might have learned to do a little dispensing, could be considered eligible for the Pharmaceutical Register even at the most liberal period of its existence, and I may be permitted to doubt how far the Pharmaceutical Society has not had cause to regret past liberality, though it may have been more or less due to a want of power to be more strict.

You say truly that it is quite conceivable that a chemist's assistant or apprentice may have acquired such skill and competence in Dentistry as to make him fit to register under the Act, and in such a case you recognise a probability of hardship. I submit that it is hardly possible to frame a law which, in the commencement of its operations, may not inflict hardship of a limited kind. From the alteration of the rules of an examining body up to an Act of Parliament such always has been and will be the case, and to legislate for what is conceivable is, I think, beyond the most comprehensive law-making intellect. But I would ask how far we are right in admitting this speculative ability of acquiring skill into our calculations. Such exceptional skill must be rare indeed, and the possessor, if his ambition be in that direction, will find little difficulty in attaining the position to which he aspires by means far more satisfactory than by taking advantage of a side door, supposed to have been left open by an Act of Parliament. If such skill be common, then the demands of the Pharmaceutical Society and of the Dentists Act in reference to apprenticeships are excessive, I do not speak now of Preliminary examinations, but if a youth, say a chemist's apprentice, be able to spare so much of his time from the period during which he has to learn the nature of drugs and the business of compounding them, and all the technicalities which belong to the practice of pharmacy, surely both pharmacy and Dentistry are much more easily acquired than some authorities would have us believe.

From what I can gather, many chemists and druggists have registered from divers motives. Some have done so not so much for the sake of practising Dentistry as to avoid jury serving and such inconveniences. Others, and these are mostly young men, have registered so that they may have Dentistry to fall back upon should pharmacy fail them; and others have come upon the register with a view to con-

tinue the the practice of Dentistry to the same limited extent as before the passing of the Act. With regard to this last class, it is a common thing to see announcement in the shop windows of chemists and druggists, to the effect that teeth are scaled or extracted or stopped as need be. Now I am perfectly sure that the framers of the Dentists Act never contemplated interfering in any way with these most useful men. Hundreds have done so hitherto without calling themselves Dentists, and there is not a word in the Dentists Act which seeks to interfere with their doing so still. I know that certain medical journals sent the chemists and druggists in force against the Dentists Bill on that ground. These journals knew how they had been embarrassed in their abortive attempts to prevent counter practice and they hoped to produce a like embarrassment for the promoters of the Dentists Act, but in doing so they were only trying to serve their own end and in no way to benefit the chemists and druggists. I repeat, the Dentists Act only interferes with unqualified persons using certain titles; the chemist and druggist may extract or scale or stop teeth as heretofore, but he may not call himself a Dentist. With regard to the other two classes named, I think it cruel to encourage young men to think that having the power to assume a title will ever enable them to successfully compete with the educated class of men who will arise along with them, and I can but say, regarding the third variety, that it is not fair to make the Dentists Register a refuge for those who are unable to place themselves elsewhere.

Referring to the uncertainty of the meaning of the term *bona fide*, your correspondent who says it is designed to sweep away all ambiguity certainly gives the view of a very high legal authority. Whether his view be exact or not, is not for me to say. I can only as a layman repeat the opinion as laid down by those who are supposed to understand those matters.

There is yet another point which is worthy of the consideration of those who may have registered on rather slender claims, viz. what is the meaning of the term "in connection with medicine, surgery, or pharmacy?" When a man wants to prove himself a doctor or a surgeon, he must appeal to the Medical Register, so I presume the same condition applies to one who wishes to prove himself a pharmacist.

In conclusion, sir, I am sure that the spirit in which the expurgation of the Dental Register will be carried out will be such as to meet with your approval, and that the confidence shown in the Dental Reform Committee by a

large number of most excellent men who have practised Dentistry in connection with pharmacy will not have been misplaced. I trust to your kindness to give this letter a place in your Journal if you think fit, and apologise for its great length—A MEMBER OF THE DENTAL REFORM COMMITTEE.

REGISTRATION UNDER THE DENTAL ACT.—Sir,—The large amount of (in many cases) intemperate correspondence respecting the right of a chemist extracting teeth and performing the minor operations in Dental surgery to use the title of "Dentist" is truly absurd.

Turning to the Dictionary, we find the definition of a "Dentist" as "an operator on the teeth." (N.B.—it does not say "a maker of artificial teeth.")

If extracting a tooth is not an operation in Dental surgery, what is it?

If the *bonâ fide* Dentist is to be only the man who can do both the mechanical and surgical work, it is quite evident that many old respected practitioners must give up.

How many of the great guns could make a piece decently if they tried?

Most Dentists put out their work to mechanical men. It is not considered the province of the medical profession to make crutches or wooden legs, and I believe there are many *bonâ fide* Dentists who can extract, scale, stop, take impressions and fit, who never made a set in their lives.

To what end did the Pharmaceutical Society obtain the terms of "Dentistry in conjunction with pharmacy" if it was not to cover the existing rights of those chemists who extracted teeth, &c., to use the title of Dentist and to continue their operations? And if, as some affirm, it is not necessary to register to perform Dental operations if you do not call yourself a Dentist, perhaps some one can explain why there are separate clauses, "in conjunction with medicine or surgery," "in conjunction with pharmacy"? Let the chemists hold their own.

DEFENCE, NOT DEFIANCE.

IMPACTION OF A GOLD PLATE AND FALSE TEETH IN THE ŒSOPHAGUS FOR UPWARDS OF TWO YEARS.

By NICHOLL EVANS, M.D.

At 11 p.m. on April 26th, 1877, I received an urgent summons to go and see Miss A—, who was said to have swallowed some artificial teeth.

On my arrival I found an anæmic, exceedingly thin girl, aged twenty-one, an invalid for many years past, who informed me in a whisper (amongst other complaints she suffered from hysterical aphonia) that in the act of taking a pill, about fifteen minutes before my arrival, she threw her head back, and an artificial gold plate, with four incisor teeth attached, fell from the upper jaw into her mouth, and was swallowed with the pill. The plate had not long been made by the Dentist, and fitted rather loosely. She complained of deep-seated pain behind the sternum, about two inches from its upper end, and in the back half way between the spine of the right scapula and the vertebræ. She had not retched or vomited. My partner, Mr. Mavor, had also been sent for, and on his arrival we passed an ordinary sponge-headed probang into the œsophagus, which met with resistance at a distance of eight inches and a half from the lower incisor teeth. Using some pressure the sponge went beyond the obstruction, and was caught firmly on trying to withdraw it, but soon returned without removing the foreign body. This was repeated at intervals three or four times, with the same result, care being taken not to use violence in the withdrawal of the probang. We then gave a strong emetic of mustard-and-water, which was swallowed without much difficulty, and was quickly rejected in a fairly full stream, but without dislodging the plate. After some further rest we bent the end of a long stout silver probe into the shape of a hook, and fastening a piece of string on to the other end, passed the probe down the gullet beyond the obstruction, and hooked apparently one of the springs of the gold plate, as it required considerable manœuvring to detach the probe again, but no impression was made on the obstruction.

It was now 4 a.m., and as we had spent five hours in unsuccessful attempts to get the teeth up, we decided to send for Mr. T. Smith from town, who arrived at 8 a.m. After hearing our report, Mr. Smith passed an œsophageal bougie direct into the stomach, and turning round, said, "It has gone down; it is not there now." When, however, I again passed the sponge-headed probang, the obstruction was still met with at the original spot. Mr. Smith now tried to grasp the plate with a long pair of forceps, but without success. So, finding that our patient could swallow fluids, we decided, as she was becoming exhausted, to postpone further measures for forty-eight hours; and after administering an opiate we left her.

Mr. Smith returned on the 29th, and finding Miss A—fairly well, considering the strain to which she had been exposed, again endeavoured to seize the plate with a longer

pair of forceps—after sounding with a probang and ascertaining that the plate was in the same place—but with no better success than before. We therefore resolved to trust to the “chapter of accidents,” and fed her as well as we could with fluids and nutrient enemata, any further operation for the removal of the obstruction being for the time out of the question.

From this time the girl herself, as well as her parents, were unwilling to allow any further operative interference, as I could not guarantee its success, and it would not be unattended with risk. She continued to live, however, in much the same condition, swallowing such food as she could. The enemata were well borne for some weeks, when they had to be discontinued on account of irritability of the rectum. Mr. Smith saw her again at the end of November, seven months after the accident, but was unable to persuade her to submit to any further operation. She was now so thin that the spinal column could be felt almost without pressure immediately behind the abdominal walls.

In this state she remained until May 5th, 1879, when I was asked to call and see her, and was informed that she had brought up the teeth (two years and eight days after swallowing them). About 11 p.m., May 4th, she was attacked with retching, and when this passed off she inhaled a teaspoonful of chloroform (as she was in the habit of doing when in much pain). While drowsy from the chloroform she vomited, and, hearing a chink in the bason, she picked out the teeth from the vomit. She felt no unusual pain, and brought up no blood. Since then the pain in the œsophagus has not decreased, nor is deglutition easier, but it is not accompanied by the troublesome choking which for some months has generally followed the taking of food, especially of certain kinds.

I brought away the artificial plate, and on examining it found it almost unaltered in appearance, the gold being merely discoloured in parts, while the plate fitted exactly the plaster cast of her mouth, which the Dentist had been kind enough to send me soon after the accident occurred in 1877.

The poor girl's previous history is a somewhat unusual one, and perhaps the fact of her living so long may be accounted for by her having had for years before what one may call an education in starvation. Having been always a weakly girl, in 1869 she had a fall on the ice when skating, strained her left ankle, was laid up for thirteen weeks by that (and, query, the treatment of a bone-setter?), and has never walked properly since. During 1871 contraction of the

leg set in. In June she caught scarlatina, and after it lost her voice. She was able to get about on crutches, but, the contraction of the leg continuing in spite of stretching, in 1876 Mr. Adams divided the flexor tendons behind the knee, but without any benefit following. The left heel now nearly touches the buttock, and the right leg has become similarly affected during the last eighteen months, though, to a less extent.

She was always an eccentric feeder, no persuasions or threats on the part of her friends having any effect, and this eccentricity has increased of late; wholesome food, or what is considered so, generally making her vomit, while she could swallow and retain, even after the accident, such things as watercress, jam, onions boiled and chopped fine, cream cheese, Osborne biscuits, minced ham or tongue, crabs, &c., though, of course, in extremely small quantities. The stomach appears to be very contracted, and she suffers frequently from colicky pains and constipation, for which she takes castor oil (with ease) once or twice a week.

Menstruation commenced ten years ago, at the age of thirteen, and occurred regularly for two years, ceasing then until 1877, since which time it has appeared occasionally, being more frequent during the last six months.

On May 22nd (seventeen days after the rejection of the teeth) I passed a sponge probang into the œsophagus. On account of the pain produced the examination was a hurried one. So far as I could ascertain, there was evidence of considerable pouching above, and contraction at the point where the teeth were lodged.

On June 25th there was no improvement in the general condition, deglutition being more difficult, and accompanied with more choking.

Note by THOMAS SMITH, F.R.C.S.

I venture to add to Dr. Evans's account a very brief statement. The foreign body in this case consisted of four incisor teeth fixed to a gold palate-plate, and having on either side two very sharp hooks. It measured rather more than an inch and a quarter in its widest diameter. It must have very seriously obstructed the passage of food, and I quite agree with Dr. Evans that life would not have been prolonged had not the patient been accustomed to live habitually in a state of semi-starvation. When I last visited her, seven months from the swallowing of the teeth, I had never before seen any living person reduced to such a state of emaciation.

I may mention that at the time of the last attempt to

extract the teeth we had little doubt of being able to remove them at a future time, by waiting until presumably the œsophagus had become pouched above the seat of obstruction, but we were not allowed to make any further trial. There can, however, be no doubt from the sequel of the case that this pouching did take place, and that at last the foreign body came to lie quite loose in the œsophagus, for the teeth were finally ejected without effort, and by an act of vomiting which, in one so debilitated as our patient, could have possessed but little expulsive force.—*Lancet*.

ON ETHER AS AN ANÆSTHETIC.

By E. H. JACOB, M.A., M.B.,

Hon. Physician to the Leeds Dispensary, late Resident Physician
to the Leeds General Infirmary.

Read before the West Riding Medico-Chirurgical Society.

THE question of the best anæsthetic for surgical cases is one of the greatest importance, and one on which there is still considerable hesitation in the minds of many surgeons. I will now merely refer to the early history of surgical anæsthesia; the early use of ether—not unsatisfactory, though unskilfully given,—and its almost complete supersession by chloroform, owing to the genius and energy of Simpson. A few years ago the medical world seemed to have settled down to the fatalist opinion that one death or so per two thousand cases was unavoidable; and although the terrible words “Death from chloroform” appeared from time to time in the medical journals, but little attempt was made to find a substitute for this convenient but fatal agent. For the remarkable change of opinion on this point which has swept over England during the past six years we have to thank principally the editors of the medical journals, to whom we owe the greater publicity of fatal cases; and not less Mr. Clover and others, whose admirable instruments have made ether as easy to administer as chloroform, and as rapid in action as any known anæsthetic save nitrous oxide gas.

During the past three years I have given ether to produce anæsthesia about twelve hundred times, and chloroform during the same period about a hundred times. In every case full notes were taken of the age and sex of the patient, the method of administration, the amount of the material used, the time required for inducing narcosis, together with the nature and the length of the operation, the occurrence of struggling or vomiting, and of any circumstance taking place during the period of narcosis which attracted attention.

There are three ways of giving ether—namely: (1) The American or smothering method, in which the patient is forcibly drenched with a large amount of ether from a sponge or towel. This mode is rapid and effective, but requires several assistants, and, from the patient's point of view, is about as pleasant as being drowned. (2) The open-air method with Golding Bird's or the American frame inhaler. This is pleasanter for the patient, but takes about ten to fifteen minutes, and struggling is frequent. (3) By the bag inhalers, such as those of Clover and Ormsby (the latter being a modification of Mr. Clover's instrument). By these narcosis can be quickly, quietly, and economically induced; the time being a minute and a half if nitrous oxide be previously given, a minute and a half to three minutes without the gas. The amount of ether used is about an ounce or less for every fifteen minutes; and even if Mr. Clover's small inhaler be used it seldom requires refilling for an ordinary operation.

Struggling occurred in my experience in about one in seventeen cases—quite as small a proportion, I think, as would be obtained with chloroform, considering the usual class of hospital patients operated on, many of them being cases of recent accident and partially under the influence of alcohol.

Epileptiform convulsions were noted as severe in six cases. These mostly resembled the phenomena of an epileptic fit—the glottis being closed, the face blue, the pupils dilated, and general convulsions being present, yielding, as does the regular epileptic spasm, in a few moments with a long breath. In one case the period passed without breathing was so prolonged that it was thought necessary to force open the mouth, draw the tongue forward, and begin artificial respiration; but I am not certain whether these precautions were really necessary. This form of spasm appears to be more common when gas is given than with the ether alone, especially if some air be inadvertently admitted. A general quivering of muscles during narcosis occasionally gives some trouble, even though the ether be pushed to the verge of asphyxia, but it seldom lasts long. I have observed it also with chloroform. In one case, that of a boy of fifteen, on whom syndectomy had been performed by Mr. Teale, a remarkable hysterical state supervened during recovery from the ether. He had recovered enough to speak, but about fifteen minutes after the completion of the operation he became convulsed, the breathing rapid and shallow, pulse hardly perceptible, body rigid. He improved somewhat after artificial respiration, but for the next three quarters of

an hour had slight convulsive seizures, followed at last by sound sleep.

Obstruction to the respiration is the principal danger to be apprehended. This may arise (1) by collection of bronchial mucus and saliva in the larynx and pharynx, which may be removed by a sponge or a stick. (2) By spasm of the glottis, like that above referred to. In a few cases only can this cause any trouble. There are, however, cases on record where life appears to have been saved only by tracheotomy. (One reported by Mr. Clover, where a mixture of chloroform and ether was used; and one recently in Guy's Hospital, where tracheotomy having been performed when chloroform had been used, a similar obstruction occurred when the patient was subsequently given ether.) In these cases the obstruction seems to occur sometimes by tonic spasm of the muscles of the glottis, sometimes from the flaccidity and paralysis of the larynx preventing air being drawn in by artificial respiration. (3) Obstruction may occur from the presence of vomited matters in the larynx. (4) Obstruction from the tongue falling back is common, and easily remedied.

Vomiting occurs with tolerable frequency. In my cases one in five vomited before leaving the theatre, and a few others afterwards, so that this number is under the mark. The vomiting, however, was very slight and transient—quite different from the prolonged vomiting we see with chloroform, and in no case gave any trouble. With reference to vomiting with chloroform, however, a friend who has long and extensively used this agent tells me that in his experience about one in three vomits after that anæsthetic, so that here ether has slightly the advantage.

There has been much discussion as to the possibility of cardiac failure, so much dreaded with chloroform, occurring during ether narcosis. All who have much used chloroform must be familiar with the sudden paling of the face, the ashen lips, and arrested pulse, followed by moments of terrible anxiety on the part of the attendant, whether, in answer to his endeavours, the heart will again beat. Out of a hundred cases of chloroform administration, three have thus given serious anxiety, but fortunately the pulse has again started after artificial respiration, although in two cases a less alarming, but still severe, faintness long persisted. It was asserted that this never occurred with ether. Cases, however, of apparent cardiac failure have been reported by Dr. Morton, from Moorfields Ophthalmic Hospital,* and by Dr. Pye-Smith, of Sheffield.† In the first the

* 'The Lancet,' Oct. 14th, 1876.

† 'Brit. Med. Journ,' May, 1877.

breathing became very weak, and then stopped; the face grew pale, and finally the radial pulse stopped. In the second, the breathing almost ceased, and the face began to blanch, then the pulse failed, though the heart could be felt beating. To these I have to add a case which occurred about the same time. A patient who had had her breast removed was noticed to be very pale after the operation, but the pulse remained good, and she was breathing well. In about five minutes she ceased to breathe, and her lips were very white; the pulse, however, was still perceptible. She was restored by artificial respiration. These three cases have something in common, but it seems to me very questionable how far this arrest of respiration, though accompanied by facial pallor, is due primarily to cardiac failure. In experiments upon animals with ether, the heart is found to beat several minutes after the total arrest of breathing. May not these cases be due to the action of the drug on the respiratory centres, the failure of heart following it closely, but secondary to the respiratory failure? Whether this be the case or not, there is practically a great difference between gradual cardiac failure of this sort, and the sudden arrest of pulse and respiration observed in cases of chloroform-syncope.

In a certain number of cases faintness after the operation was observed after the stimulant effect of the ether had passed off, but this could always be accounted for by the nature of the operation.

The sequelæ attributed to etherisation are chorea, hysteria, mania, pneumonia, bronchitis. In three cases choreic movements followed the use of ether, persistent for varying periods, the longest being three weeks. The hysterical case has been mentioned above. I have never seen the transient mania or the stupor and symptoms of intoxication mentioned by some writers. In one case of a woman there was considerable sexual excitement on two occasions during etherisation. Three patients suffered from bronchial irritation for some time after the operation, one having been previously affected. In no case was the bronchitis severe.

In 1861 a committee of the Boston Medical Improvement Society reported on the alleged dangers of ether, and published a list of forty cases where death was said to have depended on its use. Examination, however, showed that in eight cases only did death occur during the operation, or could be said to be in any way caused by the ether, while the committee reported that "there is no recorded case of death attributed to ether which cannot be explained on some other ground equally plausible, or in which, if it were

possible to repeat the experiment, insensibility could not have been produced and death avoided. Recently Mr. Dawson has collected the published accounts of death from ether,* and reports that in eight cases only could death be said to have resulted from the effects of ether. Since the publication of this paper two further deaths have occurred, in one pneumonia being the cause, in the other pulmonary apoplexy was found post mortem.

Considering that ether is at present used in every London and many provincial hospitals, this list of casualties is very small; still it shows that, though ether is the best known anæsthetic, we have still to seek for one absolutely perfect. For myself I can only echo Mr. Hutchinson's opinion expressed in a recent discussion on this point, and say I am grateful to ether for having on some twelve hundred occasions rendered the work of an anæsthetist light instead of anxious.—*Lancet*.

BICHLORIDE OF ETHIDENE AS AN ANÆSTHETIC.

THE interesting paper lately published by Dr. Jacob, on "Ether as an Anæsthetic," induces me to draw attention to some points of interest in connection with bichloride of ethidene, which has lately been used for the purpose of producing anæsthesia. It has at present been so little tried that a long time must necessarily elapse before its relative value can be determined. I have administered this drug in half a dozen cases, and so far I have met with favorable results. Unconsciousness is produced, so far as my experience goes, with very little struggling, and four and three quarter minutes was the longest time required. The pulse is slowed, but remains full, and I have not yet met with any symptom of cardiac failure. The breathing was quite quiet and uninterrupted, and there was an absence of all bronchial irritation and frothing at the mouth. Vomiting occurred once in the first five cases, and then was both slight and transient. The sixth case, so far as vomiting is concerned, was not, in my opinion, a fair test. The subject was a child who had come from the country to have an ophthalmic operation performed, and there was an absence of those precautions which can only be ensured with in-patients of hospitals and in intelligent private patients. The popular notion seems to be that if a person has to submit to a surgical procedure severe enough to require anæsthesia, a good meal is necessary to carry him through it. A practical application of this notion is inconvenient. Vomiting did

* 'Brit. Med. Journ.,' vol. i, 1877.

occur in this (my sixth) case, but not with severity. The largest quantity used was an ounce; this was given to a boy, eighteen years of age, who had an organic systolic murmur at the apex of the heart, and he was kept unconscious for thirty-five minutes. In all these cases the drug was administered on a piece of lint or a towel. It was obtained from C. A. F. Kalbaum, of Berlin, by Messrs. Burgoyne, Burdidges, and Co. It is a very expensive agent (I believe 32s. a pound), and should be kept in a capped bottle for the purpose of preventing evaporation.—Your obedient servant, J. HENRY PALMER, Resident Surgeon, Birmingham General Dispensary.—*Lancet*.

THE CASE OF MR. JAMES PATRICK MURRAY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I think the subjoined report from the 'British Medical Journal' presents many points of interest at the present juncture.

I am, &c.,

A READER.

Mr. Justice Stephen sat as the vacation judge in Lincoln's Inn on Wednesday, when a motion was made *ex parte* on behalf of Mr. James Patrick Murray, of Manchester, for a rule *nisi* calling on the Council of the King and Queen's College of Physicians and the Royal College of Surgeons of Ireland to show cause why a mandamus should not be issued against them calling on them to restore his name to the 'Medical Register.' Mr. Glenn, in making the motion, submitted that the Medical Council had no power under their Acts to remove Mr. Murray's name without removing his qualification. If the name remained on the 'Register' without the qualification, Mr. Murray could not be prosecuted if he practised. At present, he could be. Under the twenty-ninth section of the Medical Act, the Council had power to hold an investigation before they struck a name off. In the present instance, no investigation had been held. The Council had no power to strike Mr. Murray's name off the 'Register' without hearing him in self-defence. The affidavit which Mr. Murray had filed first of all set out his professional titles and qualifications. The next paragraph set out that he was eminently qualified to practise. Then came the circumstances under which his name had been struck off the registers of the Colleges. He had been in Victoria, and, after leaving there in 1871, he proceeded to

Fiji, intending to engage in cotton-planting. He opened negotiations for the obtaining of land in the New Hebrides, and proceeded to Api to get labour. When there, an unprovoked attack was made on the ship, and he was wounded by a poisoned arrow. As a reprisal, the party with him seized some of the natives and carried them away. Mr. Justice Stephen: I think that a gentleman who had engaged in such an expedition was properly struck off the 'Register.' Such a person could hardly be fit to be entrusted with the interests of families. Mr. Glenn: Mr. Murray is still on the 'Register' as a Surgeon-Dentist. Mr. Justice Stephen: This is a matter of great public importance, and there is no necessity for hurry. This application for a mandamus must stand over until after the vacation. Mr. Glenn: If the application stand over, Mr. Murray may be ruined in his practice. Mr. Justice Stephen: Do you think the publicity given by this motion will help his prospects in practice? If I granted a rule *nisi*, I should not make it returnable in the vacation. Mr. Glenn: But you will let him be registered in the meantime. Mr. Justice Stephen: No, I should not. The application was then ordered to stand over until the sittings in November.—*Brit. Med. Journ.*

REVIEW OF THE CONSERVATIVE TREATMENT OF THE DENTAL PULP.

By LOUIS JACK, D.D.S., Philadelphia.

(From the 'Transactions of the Pennsylvania State Dental Society.')

WHEN this subject was selected for presentation to this Association, it was the intention to make a *résumé* of whatever had been attempted in the nature of protective treatment of the dental pulp, as described at different times in the current Dental publications. This has been rendered unnecessary by the appearance in the 'Transactions of the New York Odontological Society' for the year 1877 of an essay by Dr. S. Morgan Howe, which covers the various methods from the earliest times.

It may be instructive, however, to classify the different methods of treatment which have been practised, and to define the defects and advantages of each. They may be divided into—

- a. The mechanical.
- b. The chemical.
- c. The therapeutical.

Mechanical treatment.

This may include the various attempts of what was designated by the Dentists of the earlier part of the present century as "capping the nerve."

It consisted in so applying over the pulp an arched covering of lead or gold in such a manner that no portion of the cap should touch it. It was intended that the air-space included between the metal and the sensitive part should prevent the irritation of thermal alternations, it being believed at that time that the pulp would not tolerate the contact of any substance.

Under this head may be included the almost impracticable method described by Dr. C. A. Harris, so frequently alluded to, and for which he claimed the most satisfactory results. This was a simple arching of the gold foil over the exposed pulp during the process of packing. This plan does not differ essentially from the then commonly practised method of capping. Capping the pulp in those days, it would appear, was effected (whatever the pretensions may have been) to enable the cavity in the tooth to be filled at once without immediate pain, and without sufficient consideration of the future interests of the patient.

The result of mere mechanical treatment at length became so unsatisfactory as to have led to a reverse practice—devitalisation of the pulp—which at length became general, and was practised without much question until within a few years.

The causes of the failures in arching would appear to be attributable either to the absence or inefficiency of therapeutic and chemical management, and the presence of the air-space.

The chemical treatment of that time consisted in the employment of the actual cautery and the topical use of creasote; the therapeutical, of tincture of opii and tannic acid, neither, excepting the creasote, being indicated or useful. The air-space would inevitably become filled with serum, blood, or degenerated lymph, the presence of either being followed by decomposition, the resultant gases, causing a recurrence of serious pain.

Chemical treatment.

Namely, the applications of pure carbolic acid, creasote, and oxychloride of zinc.

The reported results of this recent method have thus far been so various and conflicting that it is a difficult task to form a satisfactory conclusion from the opposing statements,

some declaring universal success, and others universal failure.

The defect of chemical treatment, or the application of drugs of sufficient strength to produce toxic effects, may be stated to be the undue irritation excited thereby; as frequently considerable portions of the pulp substance is devitalised, and often the whole organ is destroyed. It has become my conclusion, as a result of repeated trials, and of my observation of the attempts of others, that chemicals in full strength, especially such as have affinity for any of the elements of the pulp, are inapplicable, except as a last resort, in cases where there is already disorganisation of the exposed surface.

The first appearance of chemical treatment was the application of the actual cautery. The improbability of securing an actual white heat of an instrument so small as to be brought in contact with an exposed pulp, and the difficulty of making the application to many positions, rendered the actual cautery a mere probability, and often a simple pretence of treatment. Nothing having the appearance of intelligent chemical treatment appeared in our literature until the previous decade, when the rational use of creasote, the employment of carbolic acid, which had then been recently introduced, and the application of oxychloride of zinc came into use. The physical effects of these are similar, or the same as the effects of the actual cautery, mainly to coagulate the albumen of the tissue, thus producing, as claimed, a protective film of tissue.

Therapeutical treatment.

It may be defined that application of remedies of such dilution or of such qualities as to be non-irritating and possessing tonic or sedative powers may be designated as therapeutic or healing to the pulp.

This class of remedies has been more used lately than formerly, and further experience promises to increase the number, and to enlarge the range of them. At present they are few, viz. aconitum, calendula officinalis, camphora, hypophosphate of lime, lacto-phosphate of lime, and Canada balsam. To these may be added thymol, and creasote or carbolic acid, always in solution. Frequent reports of successful treatment have been made of all these remedies; and it may be said a reaction has occurred towards reliance upon medicaments which do not excite irritation.

The accumulation of carefully recorded experience of conservative treatment of dental pulp, has not been sufficient to enable a clear view of the whole subject to be attained.

A mode of treatment which would be applicable to one class of cases, and which will be followed by satisfactory results, may be utterly useless in another class; a distinction the force of which an attempt will be made to illustrate in what shall follow.

It appears from the different discussions which have taken place on this subject, that some who do not hesitate to treat all simple non-painful cases of exposure have no confidence in similar treatment in cases which have been attended by severe symptoms. Others attempt treatment in all cases. It will readily be seen that the proportion of success to failure by the former will be greater than obtains in the practice of the latter.

It may, however, be stated as a safe deduction from the concurrent experiences of a great many operators, that the treatment of the pulp is often followed by satisfactory reparations, and that it is desirable to extend a knowledge of the means of securing so beneficial an end. It is certainly not too much to expect that at length the treatment of the denuded pulp will be as reliable as any class of operations in our speciality of surgery. Towards these purposes I shall now direct attention to the plan of treatment I have been practising, believing that some of the features are of a valuable character.

The cases of disturbance of the pulp are properly divisible into the following classes:

Conditions depending upon the very close proximity of caries.

Accidental encroachments upon the pulp by cutting through the healthy dentine.

Conditions induced by the actual contact of caries at a small part, the pulp remaining covered by the gelatinous residue, and not previously the source of pain.

Conditions caused by the complete exposure to external irritants, as air, food, pressure, &c., and which have produced odontalgia.

Any extended description of these conditions it is unnecessary to make, and your attention can be more profitably occupied by the consideration of the treatment I have found most serviceable at my hands in each of the described conditions.

The treatment of cases of proximate exposure has been attracting much attention for several years, and deservedly so, for it may now be justly said that there are more deaths of the pulp from the failure to recognise proximate exposures, and from disregard of the simple treatment required to preserve the pulp in these cases, than follow skilful conservative

treatment of full exposures. The only safe plan to pursue in cavities at all near the pulp, and in all moderately deep cases of caries in the lateral incisors, central incisors, and bicuspid, is to apply a small quantity of carbolic acid to the cavity, and then on the portion over the pulp some non-conductor should be laid. In the small teeth above mentioned, my practice is to touch the part nearest the pulp with a solution of *gum mastic*, in either alcohol or ether, and in a moment the surface is perfectly protected.

In deeper cases I lay upon the mastic before it has hardened a thin shaving of hard gutta percha. In the deepest cases I cover thickly the bottom of the cavity with either mastic or a solution of gutta percha in chloroform, and fill the deeper half of the cavity with oxychloride of zinc as a mechanical foundation.

It may be said here that in the treatment of these, and of all pulp cases, it is indispensable to success that the rubber dam be applied to effect complete control of moisture.

(*To be continued.*)

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

CROWDED out by more important matter, your extension of space will now, I hope, enable me occasionally to make a few remarks on "Passing events."

Perhaps it would be as well if I commenced by acknowledging that "Past events" will, in the present instance, more correctly designate my title, and no event, in my opinion, is better calculated to show the advancement of our position as a profession than this necessary enlargement of your Journal. It is true, as you remark in your opening Editorial, occasionally words of censure are the only reward an editor gets for hours of thought and days of toil. In many instances the fault finder is one whom practice should have qualified to give to the world his experience, but whose silence must be put down either to a want of willingness, a want of observation, or a want of ability to describe what he has seen; more frequently the latter. However, let us be satisfied

that we have all cause to rejoice at the advancement of many laudable projects, and the completion of that necessary legislation you, Mr. Editor, have worked so hard to bring about. I feel that I have grounds for censure, but I have also reasons for rejoicing, and when two roads are open to us it is at least more agreeable to select the pleasanter one, so I will commence by congratulating the Medical Committee and the Staff of

THE NATIONAL DENTAL HOSPITAL AND COLLEGE

upon the progress they are evidently making to establish and extend the usefulness of their institution. Going back a short period I have to record that, in the month of May, at the distribution of prizes to the successful students, Mr. Edwin Saunders not only took the chair, but he also contributed a very admirable address, and that the occasion was taken advantage of to celebrate in a *conversazione* the meeting of many members of our own and the medical profession. Reunions of this kind are calculated to do a great amount of good; they rub down the sharp edges that unfortunately an isolated existence is prone to set up. Square men, who have all their lives veered between their own surgery and general society, get mixed up with their professional brethren, and they are astonished to find that many whom they have thought to be austere and egotistical can also show themselves as kind and congenial companions. Others for whom they have had a contempt, believing them to be little better than charlatans, they find thoroughly intelligent and liberal practitioners. Even the antiquated professional, supposed to be as stiff as his own white necktie, is softened by the presence of ladies and soothed by the influence of good music; all can join in conversation and have to acknowledge that they have passed a pleasant evening; so that, take my word for it, there is much virtue in rubbing down sharp corners and making "rough places plain." We all have our work to do, and there should certainly be no rivalry in trying to uphold our own special hospitals. I for one, therefore, rejoiced when it was whispered that by a concert given at Grosvenor House the National Dental was a gainer, not only in the number of its patrons, but also in ready cash, so necessary to keep up efficiently the objects in view.

By a recent resolution the committee of this institution have decided to admit registered Dentists to the practice of the hospital for short periods, and also to single courses of lectures. Whether this resolution is a wise proceeding

admits of some discussion. On the one hand, it must be allowed that, being registered Dentists, their better instruction is desirable, but what amount of instruction can be given in three months? To send men out into the world as having been pupils of the hospital, who have had so short a term of practice, will, in my opinion, be very detrimental to the fame of the College; whilst upon the principle that "a little learning is a dangerous thing" these benefits are hardly calculated to advance the proficiency of the pupil, though he is registered as a Dentist. Another question, may be asked, viz. :—What has been done by kindred institutions? Is such a proceeding acknowledged in America? By the published reports of cases we see the large increase in the number of patients treated at the National, and it is well known that the officers and students have to work very hard to clear up their day's duties. To all such progress I have ever been friendly where good is to be the result, but it behoves all engaged in these innovations to act with caution.

The inaugural meeting of the

WESTERN COUNTIES DENTAL ASSOCIATION

is another "past event" that merits being marked with a red star, for these very sufficient reasons:—The association brings members of our profession together and consolidates their interests, but it merits recognition for other reasons. It elevates the standard of professional excellence, and it also shows us how the Dental world stands as regards progress in the various appliances used by us; and it points to the gradual improvement in all that concerns the welfare of our patients and ourselves. The President, Mr. Spence Bate, gave an address, which I hope by this time has been carefully read by every member of our body, separated and disunited though we may have been in the past. "It becomes us," said the President, "both individually and collectively, to maintain this position and elevate its character; by using our knowledge and skill as a profession and not as a trade; by making our patient's necessities our first consideration, and the highest code of honour the standard of our professional ethics." Disunion can no longer exist; the fullest confidence should induce us to offer our services, our advice, and our best experience for the advantage of all. "But," as the President said in conclusion, "we must have no compromising with those who do not keep our bye-laws." The future must be made to contrast with the dark side of our past history. There are

BLOTS IN THE DENTAL REGISTER,

and the liberality of past legislation must be respected. Let me quote Mr. Tomes's words on this important point. I cannot improve by adding to them, I will not weaken them by abbreviation:—"The scheme has been to take upon the Register every person who is in the *bonâ fide* practice of Dental Surgery and in the practice of Dental Surgery in the most liberal acceptation of the term. But the Act, on the other hand, says, that no person shall have his name entered in the Register who has not been in *bonâ fide* practice, that the term shall not be interpreted in any mere technical sense, that persons shall not enter their name simply as a matter of convenience, in order that they may take up the subject at some future time on a mere colourable ground, based on some trivial act forming a small and unimportant part of a Dental Surgeon's practice. He makes a written declaration in the presence of a witness that he was in *bonâ fide* practice, and that he claimed to be upon the Register, and the Registrar thereupon enters him as a Dentist. Consequently it is a duty you owe to society and to yourselves that if you find in that Register names which you believe have no right whatever to be entered there, it is your duty to give information to some central authority that can take cognisance of and investigate the case; and if it should prove that persons' names are there wrongfully, the Medical Council be informed, so that their names may be erased. This Association has been formed for the purpose of carrying the Act into effect. Another association has been formed on a wider base still—The British Dental Association—and one great purpose of that Association will be to see that the spirit of the Act is carried out."

Here we have, then, plainly stated one of the duties that devolves upon these Associations; those who have no right to appear on the Register should be removed, and I shall look with some interest to the carrying out of these promises.

THE 'DENTISTS' REGISTER.'

THE Dentists' Register required by the Act of Parliament passed July 22nd, 1878, has just been published by the General Medical Council. It appears that 243 persons have registered themselves as Dentists practising in Manchester, Salford, and the suburbs, but of this number only 23 hold the Dental diploma required by the Royal College of Surgeons. There are 99 chemists included in the list, 30 of

whom do not appear in the Chemists' Register, and the qualification of these to appear on the Dentists' Register will be determined by the General Medical Council. No one can now recover a fee in a court of law for a Dental operation who is not on the Register.—*Manchester Guardian*.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

THE first meeting of the Session 1879-1880 will be held at 40, Leicester Square, on Monday, November 3rd, when C. S. Tomes, Esq., F.R.S., will give a casual communication on "Certain Peculiar Conditions of Dead Teeth." S. J. Hutchinson, Esq., M.R.C.S., L.D.S. Eng., will show Dr. Richmond's spring mallet and Johnston Bros.' new instruments. The Report of Sub-Committee on Plastic Fillings will be read. There will be a demonstration of Franzini's system of gas-lighting, &c., and other casual communications.

The paper by Prof. Flower, F.R.S., is postponed to Monday, December 1st. Its subject will be "Notes on Specimens of Abnormal Dentition in the Royal College of Surgeons Museum.

A paper for a future meeting is also promised by Dr. Brunton, F.R.S., on "Headache and Nervous Affections resulting from Decayed Teeth."

ASHLEY BARRETT. } *Hon. Secs.*
S. J. HUTCHINSON. }

ROYAL COLLEGE OF SURGEONS.

THE Calendar of this institution, which has recently been published, contains much valuable and interesting information. As regards the Dental diploma, we find that during the year thirty-three candidates have been examined, twenty-seven of whom have passed to the satisfaction of the Board, the fees received amounting to £299 5s. A list of the licentiates in Dental surgery of the College is also appended, and notification of any change of address should be sent to the Secretary.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

To the Editor of the 'British Journal of Dental Science.'

SIR,—If your arrangements allow of your publishing past.

lists kindly give a place to the accompanying list in your columns.

I am, &c.,

ALEX. DUNCAN, *Sec.*

Faculty of Physicians and Surgeons,
Glasgow; 23rd October, 1879.

AT the October quarterly meeting of the Dental Board of the Faculty of Physicians and Surgeons of Glasgow, the following gentlemen were admitted Licentiates in Dental Surgery:

Mr. Robert Chrystie, Dumfries.
Mr. James Cumming, Glasgow.
Mr. James H. Chisholm, Glasgow.
Mr. John Foulds, Glasgow.
Mr. John Gourlay, Glasgow.
Mr. W. S. Gillespie, Glasgow.
Mr. Harry A. Hutchinson, Dundee.
Mr. John Melville, Glasgow.
Mr. John Richards, Hastings.
Mr. Alexander P. Robertson, Glasgow.
Mr. Charles S. Sinclair, Glasgow.

Of the fifteen candidates who presented themselves four were remitted to their studies.

THE ANATOMICAL EXAMINATIONS AT THE ROYAL COLLEGE OF SURGEONS.—Professor Flower presided at the distribution of prizes at the Middlesex Hospital, on the 1st instant; and, in referring to the examinations at the College of Surgeons, expressed his surprise at the percentage of failures in anatomy. "Anatomy," he said, "is a definite science, and as such within the grasp of any ordinary intellect;" and he could not help thinking that there was either a want of system or application on the part of the students in following this branch of their education. He particularly advised students to pay attention to the study of osteology, the groundwork of anatomy; and, if they began by acquiring a thorough knowledge of that, the muscles, vessels, nerves, &c., would be more easily learnt.—*Brit. Med. Jour.*

At the recent fourth annual meeting of the American Medical College Association, it was resolved:—"That it shall be considered derogatory to the dignity and good standing of any medical college represented in this association to advertise in any other than a strictly medical publication the names of its professors, with their respective chairs. This resolution does not apply to the annual circulars and

catalogues issued by the colleges, but to advertising in non-professional periodicals, newspapers, and other like publications, in which only a card, calling attention to the advantages of the school, length of session, fees, &c., with the name of the executive officers or secretary appended, should, be permitted."—*Brit. Med. Jour.*

MEDICINAL AGENTS IN THE SALIVA.—In a paper read at the Académie des Sciences, M. Gabriel Pouchet detailed the results of some experiments which he had made for the detection of substances in the saliva. In three instances he was enabled to detect lead in cases of saturnine paralysis and tremor. In each case from 100 to 150 grammes of saliva were produced by the injection of pilocarpin, but the quantity of lead found was too minute to allow of its dosage. In two cases of diabetes treated by arsenious acid and arseniate of soda not a trace of arsenic could be found; and in these cases, as already remarked by Claude Bernard, no trace of sugar existed in the saliva. M. Poucet was enabled to verify the fact, already noted by Prof. Vulpian, of the passage of albumen into the saliva in Bright's disease. Two injections of pilocarpin were practised in a subject of parenchymatous nephritis, the first of which caused the discharge of 328 grammes of saliva, the albumen detected being by weight 2.27 grammes per 1000 grammes of saliva. The second injection, practised three weeks after the first, only produced 145 grammes of saliva, containing 1.98 gramme of albumen.—*Med. Times and Gazette.*

TORQUAY.—We understand that Mr. Rodway, of Torquay, has recently retired from practice. We are sorry to lose him from our ranks. He is succeeded by Mr. F. Youngman, L.D.S. Eng., and Mr. G. B. Pearman, L.D.S. Eng., to whom we wish every success.

WE have to thank Mr. A. Clifford-Eskell for a very neat and readable little pamphlet on 'Posting Proofs,' an account of which was given in our last issue. We certainly think that the adoption of his scheme would be of great advantage to the public, and particularly to Dentists.

DEATH DURING EXTRACTION OF A TOOTH.—Dr. Poulet in his 'Traité des Corps Etrangers,' mentions two cases in which death resulted from the fall of teeth into the larynx during extraction. In both these cases the operations were performed under the protoxide of nitrogen. A short time since a sudden death occurred to a child seven

years old, at Lyons, the Dentist having removed a molar by means of the American forceps, from the grip of which it escaped during the struggles of the patient. During a deep inspiration it entered the larynx, and the child died instantly. This case may be compared with one which occurred to Prof. Rigaud, who had a child die under his hands while he was attaching the pins for a hare-lip. At the autopsy a milk-tooth was found between the lips of the glottis, which it completely obstructed.—*Medical Times and Gazette*.

EXTRACTION.

By GEORGE WARD, Esq.

EXTRACTION! The chemist's qualification and standard to constitute himself or any man a Surgeon-Dentist. The sole standard, says the chemist, by which any man should be judged by and known as a Dentist. In fact, according to the chemist, extraction is the alpha and omega of Dentistry. But in sober truth is it so? Would not a *bonâ fide* Dentist feel lowered in his own estimation if his skill as a Surgeon-Dentist was summed up in the word extraction? Certainly! for of all the various surgical operations necessary on the human body not one is simpler, if we except lancing. Yet of all the operations none is of a more haphazard nature to the operator, or more dreaded by the patient. When an arm, a leg, or even a finger is to be cut off, a fixed definite rule of surgery is to be followed, and from which there is no deviation, as success depends on it, but it is not so with extraction. There is nothing scientific about it, for it is at the best a simple mechanical violent wrench or pull in the dark. For instance, the most skilful of extractors *must* for that very reason fail at times, for he cannot tell until the tooth is extracted what form of fangs it will have—whether one tooth will be joined to another by a true osseous union or not—whether one fang will be twisted round the fang of another tooth or not—whether the fangs are bifurcated or as a conical block—whether the fangs of a lower wisdom tooth make a circle into the ramus of the jaw, thus completely defying ordinary extraction, or they do not. In short, these many abnormal facts the most clever of surgeons, or most skilful of Dental extractors, cannot foretell. Thus it is that, guided by an ordinary anatomical knowledge, yet knowing nothing definite or certain, the operator puts on the forceps, or applies the key, as the case may be, and pulls or twists,

when the tooth must either come clean out or break. Nor can any operator, excepting perhaps a chemist, tell by simply looking at a tooth whether it will take a short strong wrench, or flop out just by closing the blades of a forceps. Now it is fortunate for operators in general, and mankind in particular, that ninety-five human teeth out of every hundred come out readily and without breaking. The writer of these remarks had a case of trying to extract a canine tooth for a strong Irishwoman, and could not move it; five other strong wrists also tried and failed to move it; when the fifth operator put on the key, and with the exclamation—Here goes! gave a strong wrench, and the tooth broke clean from the neck. The bone of this tooth was the densest the writer ever saw, and there is no doubt it was held in the woman's jaw by a perfect osseous union, thus defying any amount of physical skill. Now who can foretell all this? Why, no one! excepting perhaps chemists, who are, by their *ipse dixit*, the cleverest of Dentists (*vide* the 'Pharmaceutical Journal'). Again, the writer has known a case of wisdom teeth defying all the skill of ordinary extraction, or ordinary forceps, simply because their fangs, *two* in number, turned completely up into the ramus of the jaw, and thus forming a circle, and which no straight or side wrench could have started. The writer took them out with his fingers, lifting them in a circle; they were extremely loose, yet could not be moved by forceps. Numbers of other kindred cases could be named; thus it is that extraction may truly be looked upon as an unscientific and uncertain operation, and for which no definite rule can be laid down. Now, couple this with the fact that the majority of teeth are readily extracted, how truly absurd it is to constitute any man or chemist a clever Dentist because of extraction, or that extraction should have qualified any man or chemist to have registered as a Surgeon-Dentist. For any man—a butcher, or barber, or even a chemist—may be a first-rate extractor of teeth, yet the most ignorant of Surgeon-Dentists, in fact, no Surgeon-Dentist at all. Now what is more, extraction is a kind of general operation, that is, it is the right of a physician, the right of a surgeon, of a chemist, the right of any man, if he likes to pull out his friend's tooth, and quite as much that common right as clapping on a poultice or a mustard plaster. Again, is it not truly absurd to imagine for one moment that the Dentists Act was governed by extraction? Would, for instance, Dentists have got their Act had the claim to that Act rested solely on the right to extract teeth? Foolishery! as a foreign patient of the writer would say, and so it is. If chemists and barbers extracted *before* the Act, they have the

right *after* the Act. And any legitimate body of Dentists would simply be fools to prosecute such. Those who prefer such to extract their teeth let them put up with the results. For it is not extraction which constitutes a Surgeon-Dentist, nor did it place any man in the position to register at the passing of the Dentists Act as a *bonâ fide* Dentist. In fact, chemists had the right both *before* and *after* the Dentists Act to extract teeth, and if the said chemists had only kept to their original notification—"Teeth Extracted"—no Dentists Act could have made them take it down. But when chemists go further, and openly constitute themselves Surgeon-Dentists, that is, profess to do ALL that a Surgeon-Dentist may be called upon to do and does do, then the impudence of the Act stands confessed. For of the two thousand and forty-nine chemists who have registered under the Dentists Act, the sole qualification of the two thousand was simply extraction. But surely, if such is their sole qualification, which it was, then every barber, every farrier, every blacksmith, and all such, were *bonâ fide* in the practice of Dentistry, and have a legitimate right to register. If because a man has extracted a tooth he is a Surgeon-Dentist, then it surely follows that because a man has served another with a writ he is a solicitor or profound lawyer. In fact, if extraction constitutes a man being a Surgeon-Dentist, then the entire nation may be said to be Dentists and had a legitimate right to register. In conclusion, it must not be imagined from the whole of the above that the writer holds the skill of extracting teeth as nothing. No! just the reverse, for a knowledge of the anatomy of the jaw is of some service in extraction. Also a certain amount of due caution must be observed in extracting all teeth; still, very ignorant men have been known to be capital extractors. For instance, physicians, surgeons, and all general medical practitioners are, as a rule, inferior extractors of teeth, but surely that does not constitute them inferior medical men. So it follows that a man or a chemist may extract teeth well, yet be a most incompetent medical man and Surgeon-Dentist, for the abstract truth is that the skill of the medical and Dental professions is not summed up in one word, and that word extraction, as chemists in their futile weak reasoning would have society believe. And it would have redounded more to the integrity and honour of chemists if they had *not* registered in the wholesale manner they have, and if honest men, numbers of them must feel it an absurd farce to be termed Surgeon-Dentists, knowing, as they must do, that extraction was their sole qualification.

TOMES AND TURNER TESTIMONIAL FUND.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you do me the favour to give insertion to the following additional names and sums which have come in since you kindly published the list in your August number ; and to state for the information of intending subscribers, that the Fund will shortly be closed.

Yours, &c.,

EDWIN SAUNDERS, *Treasurer.*

13A, George Street, Hanover Square, W.

	£	s.	d.
Anderson, A. E., Maidstone ...	1	1	0
Bailey, G. H., London ...	1	1	0
Bayler, L., Pietermaritzburg, Africa ...	1	1	0
Bayler, G., Natal, Africa ...	1	1	0
Balcomb, T., Jersey ...	1	1	0
Barkley, W., Worcester ...	1	1	0
Bensted, C. T., Waltham, Herts ...	0	5	0
Bridges, T. E., Whitby ...	1	1	0
Brownlie, J. R., Glasgow ...	5	5	0
Students' Glasgow School, per J. R.			
Brownlie ...	11	8	0
Bullen, F., Chester ...	1	1	0
Bunter, G. B., Maidstone ...	1	1	0
Campion, H., Manchester ...	1	1	0
Carter, E., Melbourne ...	5	5	0
Coles, Oakley, London ...	1	1	0
Cormack, A., Edinburgh ...	1	1	0
Crabtree, E., Accrington ...	1	0	0
Davis, M., London ...	1	1	0
Drabble, J. E., Sheffield ...	1	1	0
Drabble, R. C. H., Sheffield ...	0	10	6
Drabble, L. H., Sheffield ...	0	10	6
Fairbank, J., London ...	1	1	0
Farebrother, H. L., Tunbridge Wells...	1	1	0
Finlayson, M., Leith ...	0	10	6
Fisher, W., Dundee ...	1	1	0
Foran, J. C., Eastbourne ...	1	1	0
Fothergill, A., Darlington ...	1	1	0
Gaddes, T., London ...	1	1	0
Garland, T. G. T., Heavitree ...	0	10	6
Gingell, G., London ...	0	10	6
Graham and Wood, Stockton-on-Tees	2	2	0
Grünbaum, H., Stratford ...	1	1	0
Hall, A., Tasmania ...	1	1	0
Hay, W., Norwich ...	1	1	0
Hepburn, D., Edinburgh ...	1	1	0

			£	s.	d.
Helfrich, R., London	...	...	1	1	0
Hiam, C., Northampton	...	...	1	1	0
Hopkinson, R., Salford	...	...	1	1	0
Jackson, T. T., Hastings	...	...	1	1	0
King, R., Shrewsbury	...	...	1	1	0
Kirby, H. T., Leicester	...	...	1	1	0
Köhler, C. W. H., Cape Town	...	...	0	10	6
Levason, A. G., Hereford	...	...	1	1	0
Lyddon, G., Reading	...	...	1	1	0
Mallan, J. Prescott, London	...	...	1	1	0
Martin, Gavin, Bradford	...	...	1	0	0
Matthias, A. M., Manningham	...	...	1	1	0
Manton, J. N., Wakefield	...	...	2	2	0
Moore, W. V., Plymouth	...	...	1	1	0
Nolan, W. H., London	...	...	0	10	0
Orphoot, P., Edinburgh	...	...	3	3	0
Parson, T. C., Clifton	...	...	2	2	0
Parkinson, Geo., Bath	...	...	5	5	0
Poundall, W. L., Brighton	...	...	1	1	0
Powell, D., Newcastle-on-Tyne	...	...	1	1	0
Pedley, G., London	...	...	1	1	0
Rhodes, T., Keighley	...	...	0	10	6
Richardson, F., Derby	...	...	1	1	0
Rothwell, Jos., Southport	...	...	0	10	6
Simmonds, J. J., London	...	...	1	1	0
Smith, A., Clifton	...	...	0	10	0
Wallis, G., London	...	...	1	1	0
Wardell, W., Luton, Beds.	...	...	1	1	0
Watson, D., Torquay	...	...	1	1	0
Wilson, H. C., New Zealand	...	...	1	1	0
Wilson, W., Sheffield	...	...	1	1	0
Wood, J., Dumfries	...	...	1	1	0

DENTISTS AND DENTISTRY.

By GEORGE WARD, Esq.

As the protoplasm develops into the matured form, so Dentistry has done until it has culminated into a specially protected profession. The good of this none can deny, nevertheless the present position of Dentistry is simply an outcome of the natural order of things, or the fitness thereof. Now, in 1814, and before that, what was the position of Dentists and Dentistry? Why, on principle precisely what it is now. Yet it was not then so prominent a calling. True! as there were not so many Dentists, and the public

did not employ them so much. True also! But those were the very facts which caused Dentists and Dentistry to be ignored in those days, so much so that when in 1814 the medical profession came under their Medical Act the Dental profession was entirely ignored by it. Let us mark the results. The Medical Act ignored Dentists, and did not then consider Dentistry as a branch of the medical profession, as the total omission of all the then Dentists proves; in fact, Dentistry was treated with perfect indifference by the Medical Act of 1814. Why? But in 1878 we were told by the medical profession that Dentistry *was* a branch of it, as the late medical opposition to the Dentists Act testifies. What extraordinary foresight! Chemists, too, never thought that they were Dentists—their late Pharmaceutical Act is silent thereon—yet in 1878 nearly every chemist in the kingdom suddenly came to the conclusion that he was a Dentist, as their late opposition to the Dentists Act also testifies. What contemptible meanness! But let medical men and chemists ask themselves honestly the question—How is it that if Dentistry *is* a branch of their respective callings, as they both now assert, how is it, and how was it, that all Dentists in practice after the Medical Act of 1814, and the later Pharmaceutical Act, were permitted to practise as unqualified men by the side of qualified medical men and chemists? The truth is, this glaring omission and its inconsistency speaks for itself, and proves, if anything does, that Dentistry is *not* a mere branch of either the medical or chemists' callings. How came medical men and chemists to permit unqualified men to practise a branch of their professions, if it *is* a branch? It may be said that the omission was simply an omission on the score that Dentistry was a branch, thus there was no need to specially mention it. Well, admit this! still, how about the fact that not only were Dentists after 1814 permitted to practise without diplomas, while medical men were not, and so with chemists later on, but it needed a special Act of Parliament, termed the Dentists Act, to constitute Dentistry into a legalised profession. This very fact and Act proves that Dentistry is not, and never was, a branch of either the medical or pharmaceutical callings. Therefore, why medical men and chemists were permitted to register as Dentists passes all belief. But it shows a want of principle in medical men, gross dishonesty on the part of chemists, and utter incapacity on the part of the late Dental Reform Committee. Now, as not one man in a thousand acts from principle, but from utter selfishness, so it suited the selfish meanness of medical men and chemists in 1878 to call themselves Dentists and

Dentistry a branch of their respective professions. Yet neither party knew anything whatever about Dentistry, nay, hundreds knew not a modelling tray from a plaster cast, or were in the actual practice of Dentistry at the passing of the Dentists Act. But in sober truth is, or ever was, Dentistry a branch of either medicine or pharmacy? No, certainly not! no more than electricity is a branch of medicine, or photography that of pharmacy. Nevertheless, electricity is allied to medicine, as photography is to pharmacy or chemistry, still, for all that, are two distinct callings or things, so to all intents and purposes is Dentistry, that is, it is a distinct and special calling unto itself, and that was really why it was ignored by the Medical Act of 1814 and the later Pharmaceutical Act. In short, Dentistry has little or nothing in common with one or the other. If, on the other hand, Dentistry is not a special calling, but a mere branch of medicine and pharmacy, then all medical men and chemists were justified in their previous and late conduct. But if, as has been shown by their own acts, that Dentistry is not, and never was, a branch of medicine and pharmacy, then a gross injustice has been done to all legitimate Dentists in the wholesale admittance of medical men, and specially chemists, as registered Dentists. Now, alas! what is more unfortunate still is the fact that Dentistry by being allied to the medical and the chemists' callings will never, never take the lead or attain the position as a profession in the United Kingdom that it has done in America. The sole reason Dentistry made such signal progress and success in America was owing entirely to the fact of its being specially independent of any other calling. Thus there its grand success, thus in this country its future stultification. For what calling can possibly make progress or gain vitality if it be overshadowed by another calling greater in power and in numbers than itself? The lesser calling must succumb to the superior and be stultified by it; thus the future stultification of British Dentistry. So, viewing all these facts, for they are facts, and no mere vapid opinions, what, pray, have British Dentists to be grateful for, or who to? The late Dental Reform Committee! Why, a set of men utterly devoid of tact and business, and not fit to be executive guides of the profession. In proof of which there is the fact of their want of tact and management, reason and judgment, in allowing the medical profession to dictate as it has done, and over 2000 chemists to assume Dentistry, with the further senseless rules and bye-laws which they have concocted for the British Dental Association. Even now these men would ostracise, and so prevent hundreds of

legitimate Dentists from becoming members of the Association, as they would, if they could, have excluded hundreds of Dentists from the benefits of the Dentists Act. In fact, they tried their very best to exclude legitimate men, and, lo! they ended in admitting almost every chemist in the kingdom. What superb management! Therefore, is it to such guides and monitors as these that the profession is expected to look up to? Let us hope not! Now, if before the passing of the Dentists Act had a powerful form of centralisation been employed; had every legitimate Dentist been asked to aid in forming local committees of districts; had Parliament been distinctly shown and informed that the Dental profession was a distinct speciality, and no mere branch of the medical or chemists' callings, as the utter exclusion of Dentists and Dentistry from both their Act testifies to; had Dentists been made fast friends of instead of been snubbed by pride and conceit; in short, had the Dental profession only pulled together, then things would have been vastly different. Then legitimate Dentists would not have seen medical men assume Dentistry, of which they know next to nothing, or seen chemists assume it, of which the far greater number know literally next to nothing or ever did. As it is, the whole thing, in spite of the passing of the Dentists Act, is extremely humbling and humiliating to the Dental profession as a profession. If, on the other hand, it is not a distinct profession, why, what does it matter? Not only so, but if a mere branch of medicine and pharmacy, what need of all the late fuss and bother, in fact what need of an Act at all. Surely the medical and pharmaceutical professions having special Acts of their own did not need *another* just to confirm a *mere branch*. The thing is absurd on the very face of it, yet a stir and fuss to procure a Dental Act, as if Dentistry were in very deed a distinct profession. The truth is if Dentistry *is* a mere branch of medicine and pharmacy, *no* Dentists Act was needed; if, on the other hand, it is *not* a branch then an Act *was* needed. But which is it, a special and distinct calling peculiar unto itself, or the reverse, for it must be one or the other? However, medical men and chemists say one thing, all Dentists naturally say another thing; thus, between the two the independency of the Dental profession has been completely sacrificed, while the want of business qualities of the late Dental Reform Committee, combined with the apathy, supineness, and dissensions of the members of the Dental profession, has aided the ruin. No Dentist can read the 'Dentists' Register' with any degree of pride, simply because if a goodly number of medical men's names had graced the register, it would have been after all an honour;

but to find over two thousand chemists' names on it, *the majority of whom are perfectly ignorant of Dentistry, and was not even in the practice of the profession at the passing of the Act*, is simply disgusting to legitimate Dentists. While only 48 legitimate medical men have joined and registered as Dentists, over 2049 chemists have also; there are only 483 licentiates in Dentistry, 2707 legitimate Dentists, as against the disgraceful fact of over 2000 chemists. It is simply a lie to say that that number of chemists were actually in the *bonâ-fide* practice of Dentistry at the passing of the Dentists Act. The truth is, had not these chemists been egged on by the Chemists' Association and its lawyer, who, no doubt, found it much to *his* interest to egg chemists on to register, we should never have seen such a number registered. Thus, as stated before, what with the want of business qualities of the Dental Reform Committee and the supineness of legitimate Dentists, while the Dentists Act has become law the Dental profession has been so stultified as to leave no room for healthy growth or action. What is more, the evil arising from the blunder will for ever cling to British Dentistry, until some future day the profession—if it is a profession—severs the unfortunate and false connection with medicine and pharmacy, and enables it to take the independent position as in America. It is also a perfect disgrace, considering how much the general public patronise Dentists and Dentistry, that it should, as a profession, play second fiddle to the medical and chemists' callings. Nothing so showed the practical wisdom and sound common sense of all American Dentists as the fact of seeking and getting for their calling an independent position. For it was this very independent position which caused American Dentistry to reach the matchless position it has reached; nay, it has got to as proud, if not prouder, position than the American medical profession. But would it ever have got to this matchless height but for the fact of being entirely independent of every other calling? No! and certainly not if it had, cap in hand, begged its diplomas from the medical profession, as done in this land. The truth is, in America it is in reality the Dental profession, while here, in the United Kingdom, it has humbly confessed itself a mere branch of the medical and pharmaceutical callings, and what diplomas its members get are the second-hand honours of a superior profession, which plainly proclaims the diploma as inferior to its own, thus also proclaiming the inferiority of Dentistry as a profession. Yet the Dentists Act cost over £1200 and no independent position. If this is not most humiliating what is? Therefore, while the Dentists Act has become

law, it has been so as the outcome of a superb piece of imbecility. The blame rests with the late Dental Reform Committee as working managers, and the utter want of confidence of Dentists themselves, not only in themselves but in their profession. But is it too late even now to retrieve matters? No! if a truly representative association of all classes of Dentists could be formed, an association in which every one, high and low, qualified or simply legalised and registered, could have a voice. The law of the land through the Dentists Act has put every Dentist on an equality; thus each should have an equal power of voice. It is only and solely by some such an association that the profession will ever be benefited; it is the *unity* of the *many*, not the purse-proud views of the few, which is wanted and which can do any good. In fact, nothing will save what remains of the independency of the Dental profession but the formation of the kind of association named, and in which, and for which, every registered man shall have a voice and interest. There are three most serious matters for all Dentists who in the least care for their profession to discuss; those three are:—The plan or method of Dental education, Dental independence, and the prevention of the severance of mechanical Dentistry from the surgical. The first of these three is at present *too medical*, or straining that way, so as to endanger the existence of the Dental profession as a speciality; the second named is also seriously endangered; while the third named is in positive danger from the too exclusive medical training and pride. Nevertheless, the day that sees the severance of mechanical Dentistry, or the abandoning of it to a trade, as in the case of medical and surgical appliances, will be indeed a dark day for the members of the Dental profession. In fact, the severance of the mechanical from the surgical will cease to make it the Dental profession. Also, the Dentist who cannot make with his own hands artificial teeth, &c., ceases to be a Dentist, and becomes a surgeon of an extremely limited form of surgery; in short, neither a surgeon or a Dentist, but a medico-surgical nondescript. Now, who can be better judges of what Dentists want and should have than Dentists themselves? What, for instance, do medical men know of Dentistry or the wants of Dentists? However, there is one thing all Dentists must take seriously to heart, which is, that if they permit the few to act in their names without their own special interference and judgment, then as sure evil days will follow. There never was an instance yet in human history but when power was given to the few by the many without the many looking after the few, but the few played the many false. It always has been so, it always will

be so. Thus, let each individual Dentist look after the welfare of his profession, and then all future Dentists will bless him, and the profession itself be ennobled. Already, through apathy and supineness and want of confidence in themselves and their profession, the independency of the profession has been utterly wrecked. Will it always be so? That is the question. If America has seen Dentistry become an independent profession, why not the United Kingdom? Why, indeed? Alas! British Dentistry is merely a branch on sufferance by the kind permission of the Royal College of Surgeons and the Pharmaceutical Society. Therefore it is simply a mockery and a farce to call it the Dental profession in this land. The Dental profession, indeed! with the fact of over two thousand chemists on the register, the diploma the gift of another superior profession, and the Dental profession the mere branch of medicine and pharmacy with no recognised *Dental* status or head. The Dentists Act is no Dental Act at all; it is but a codicil to the Medical Act of 1814 and the later Pharmaceutical Act.

MR. ANDREW WILSON, L.D.S. Ed., has received the recognition of the Royal College of Surgeons, Edinburgh, as Lecturer on Dental Anatomy and Physiology in connection with the Edinburgh Dental Hospital and School.

APPOINTMENTS.

H. F. PARTRIDGE, Esq., L.D.S.I., to be Dental Surgeon to the Cancer Hospital, Brompton.

W. H. BREWARD NEAL, Esq., to be Hon. Dental Surgeon to the Birmingham Dental Hospital, *vice* C. J. Fowler, resigned.

RICHARD GILES BRADSHAW, Esq., to be Assistant Dental House-Surgeon to the Dental Hospital of London.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—I cut the following extract from a local paper of October 23rd. If any history of the case comes under your

notice I hope you will give us some account of it in the Journal.

When are you going to ventilate the subject of *Fees*? I am a young curricula L.D.S. Eng. here, and get no return at all equal to payment for root fillings, especially so when they are suppurating, or big adhesive gold, or, indeed, any of the work as you are taught to do it at the hospital.

I wish there was some recognised code, or something or other, for the guidance of young practitioners in provincial towns, where they cannot get West-end fees, for I am almost ashamed to ask any fee, however moderate, from the people here, they so continually grumble.

Yours, &c.,
L.D.S., Eng.

“FATAL POISON IN A TOOTH.—The ‘New York Times’ says :—Mr. George Arthur Gardiner, nephew by marriage of Prescott, the historian, died in Brooklyn on the 27th ult., in great agony, after two weeks of indescribable suffering. It is said by his attending physician that his death was caused by arsenical poison placed by a Dentist in one of his teeth for the purpose of killing an aching nerve. The certificate of death, which was filed with the Department of Health of Brooklyn by Dr. Samuel S. Guy, of 302 Clinton Street, states that the cause of death was ‘gangrene of mouth and face, arising from treatment of a tooth.’”

To the Editor of the ‘British Journal of Dental Science.’

SIR.—I beg to thank you for the quotation you have given in your last number of my system of posting proofs, from the ‘British Medical Journal,’ but if the subject meets with your approbation (and it is of universal interest) I shall be glad of a few editorial remarks, as I am desirous of collecting the papers in which original notices appear, and to send them to Lord John Manners as expressive of the opinions of the different sections of the community.

I am, &c.,

A. CLIFFORD-ESKELL.

8, Grosvenor Street, Grosvenor Square, W.

To the Editor of the ‘British Journal of Dental Science.’

SIR,—Having been put to a considerable amount of trouble in claiming exemption from service on juries, might I ask your opinion on that section of the Dentists Act. Some time ago I requested the overseer to omit my name from the list of persons liable to serve. He (the overseer) consulted the magistrate’s clerk, who gave it, as his opinion,

that the name of any registered Dentist must be returned as liable to serve, and that exemption could only be claimed on being summoned to serve on any jury. A further opinion was afterwards obtained, and I was told to appeal to the magistrates. This I did; to-day the exemption was granted, but I was told it would only be for twelve months, and I must then again appear and claim, and must do so from year to year. If this is a correct interpretation of the section, which I doubt, I think it would be interesting to many if you were to call attention in the Journal to it.

I quite thought that, having expressed a desire not to serve, my name ought not to have been returned as liable, and being once exempt I should remain so while a registered Dentist.

Yours, &c.,
J. T. H.

To the Editor of the 'British Journal of Dental Science.'

SIR.—I, along with other Dentists, received your circular relative to your Journal. In that circular you promise to take broad and liberal views of things Dental, and permit *all* to have a fair say; the *all* I find in *italics*. Good! Now, if you fairly stand to your promise your Journal will much enhance its circulation. It is all very well to study the scientific side, but there are other matters quite as worthy of print. More so at present. Now, though I had given your Journal up, still, in consideration of your promise, I will take to it again, as I had also taken it from the first month of its birth as a Dental journal.

Please to know that men like the late Dental Reform Committee are not immaculate; they at times deserve censure if they act not wisely. I enclose you two papers on the political aspect of Dentistry, and trusting they will merit insertion,

I am, &c.,
GEORGE WARD.

185, Oxford Street, W.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Can you inform me how the £3 extra, which has been extracted from me as payment for my registration under the Dentists Act, can be recovered? My declaration paper reached me too late to enable me to claim the advantage of the lesson fee of £2, and I think it rather hard that some special enactment was not made for the benefit of Dentists residing at a great distance.

When I sent in my declaration I requested that the extra fee of £3 might be refunded, but no reply has been vouchsafed. I cannot believe that the Medical Council, or whoever has the matter in charge, would refuse to concede so simple an act of justice if this claim were properly represented. The use of the money will apparently benefit no one in particular, and as there are probably many colonial Dentists besides myself in the same dilemma, I trust you will deem our little grievance of sufficient importance to occupy a corner of your much and widely read Journal.

I am, &c.,

GEO. W. BAYLIS, L.D.S.

Durban, Natal, S. Africa.

THE CANADIAN L.D.S.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The readers of the 'British Journal of Dental Science' must feel indebted to Messrs. Beers and Wilmott for their letters on the above subject, clearing up as they do the disputed point of diplomas having been granted without examination. It is most gratifying to learn from Mr. Wilmott that the practice was discontinued so far back as 1872. At the same time, it is somewhat mortifying to learn from his letter in the Journal for September 15th, 1879, that there are men still anxious and willing to obtain the licence on those terms.

Yours, &c.

J. C.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I understood that by the Dentists Act just passed all persons who used the name or title of Dentist in the kingdom were obliged to register as such. To my astonishment I find that many Dentists have their name-plates on their doors, and even advertise "only addresses," &c., in the daily papers, yet their names do not appear in the Dental Register just published. I send you three names, selected at random, to show the correctness of what I state. If this can be done, what is the use of the Dental Act?

I am, &c.,

A CONSTANT SUBSCRIBER.

To the Editor of the 'British Journal of Dental Science.'

SIR.—I beg to enter my protest against the incessant attacks upon the Irish Dental diploma in Dental Surgery which appear month after month in this Journal.

As I have the honour to be a licentiate in Dental Surgery of the Irish College, I have a right to demand why my diploma, and those of some 150 others, is thus persistently held up to scorn and contempt upon every possible occasion. For my part, I am proud of my connection with that College, which I look upon as the pioneer in a movement which is rapidly spreading on every side, and will ere long shake the present professional edifice to the very foundations.

I assert that the attacks alluded to are wholly unjustifiable, for even supposing the examinations were insufficient and superficial, which I utterly deny, yet what had the candidates to do with that? They conformed to all that was required of them, both by the examiners and the law which appointed them. And so far from these examinations being what they are represented to have been, my humble opinion, formed upon a very careful study of the Dentists Act, is simply this, viz. *that the Irish examinations are more in conformity with the spirit and intention of the Act* (which is professedly liberal) than those of either England, Edinburgh, or Glasgow. If any one will turn to Section 18 they will read as follows:—"It shall be lawful for any of the medical authorities . . . to hold examinations for the purpose of testing the fitness of persons to practise Dentistry or Dental Surgery, who may be desirous of being examined;" and I dare any one to assert that the Irish College has done less than this. Yet we find all the other colleges travelling far beyond the limit prescribed by the Act, and introducing questions on general anatomy, which have no bearing whatever in Dentistry or Dental Surgery. Therefore, I maintain that, in confining themselves to "the anatomy and physiology of the teeth and associated parts," the Irish College has acted up to the letter and spirit of the Act, and those who have required more of their candidates have exceeded their function.

I am, &c.,

FRANK RICHARDSON, L.D.S.I. (Sep., 1878).

10, London Street, Derby.

[Mr. Richardson appears to have forgotten Shakespeare's words, "The lady doth protest too much." It is not we who hold up his diploma to "scorn and contempt." We simply publish facts, and cannot help it if others draw the inferences that seem to have struck Mr. Richardson, but which it would have been wiser for him to have kept to himself, as such letters only tend to keep the subject alive, and we have had quite enough of it, as there are other

matters of far greater importance requiring our attention.—
ED. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

DEAR SIR,—It was with deep regret that I read your letter in the last issue of your Journal, which had been addressed to the Hon. Sec. of the "British Dental Association," requesting the removal of your name from the list of its members for it is in the presence of yourself, with others of the same spirit, that I for one should trust to prevent the British Dental Association from becoming, even temporarily, a Private Detective Association.

There is so much that can be done within the four corners of the Act without infringing the "principles upon which alone Sir John Lubbock has declared the Bill could become law—namely, the recognition of all existing rights," that I am grieved that matters of much greater importance should apparantly be lost to sight, and that there should be so much needless discussion upon the interpretation of the term "*bonâ fide*." That interpretation belongs to higher authority, as you have frequently pointed out.

Why not draw attention to the question—whether any persons in the 'Register' may appear before the public with anything more or less than his registered qualification? And again, whether advertisers are guilty or are not guilty of "disgraceful conduct" in a professional respect, so as to bring them under Clause No. 13 of the Act. I may be told that "these also belong to the higher authority," but I reply that these are of much greater importance, and that they have not received the attention they deserve.

Chemist-Dentists are becoming ashamed of their connection with pharniacy, and are appearing, where they are not otherwise known, as if they were practising Dentistry separately, and thus interfering with the vested interests of others who *are* practising Dentistry separately, and who would not fear for a moment the entry of a Chemist-Dentist—or let us call them pharmaceutical Dentists—into the lists against them, but who have a right to protest against a pharmaceutical Dentist visiting a distant town under the designation of Dentist only.

Again, there is the most important question of advertising, and whether the "General Council" would not be doing a great and noble work in putting a stop to it. But if this were done, and I fear that without even going so far, an amendment or supplementary Act must soon be passed, and sooner the better, for "vested interests" will soon spring up to

supply the omissions of the Act, or it will soon appear as if it encouraged that very charlatanry which it was the primary object of the Act to suppress. There is no definition of "Dentistry" or "Dental Surgery" in the Act, and it is not made penal for any one unregistered to perform the operations of a Dentist. The only thing the Act does in that respect is to prohibit such from suing for the recovery of debt. Chemists know this, and already in their shops is a notice to the effect that "Teeth are carefully extracted." And by-and-by those who are driven from the 'Register' for unprofessional conduct will be joined by others, *never registered at all*, in opening shops and displaying natural and artificial teeth, and advertising largely that they perform all Dental operations. Was it the intention of the promoters of the Bill just passed to allow this opening for the violation of the spirit of it, or was it an omission? It will become intolerable to a future generation, if not in our own; and just when we thought we were obtaining protection for ourselves and our children, it will be a disappointing discovery. Doubtless some who may discover that they are not allowed to advertise as much as they like—and to whom advertising is "their vital breath"—will voluntarily retire from the 'Register,' thus forfeiting the *name* for the *emoluments* of a Dentist, risking a loss now and then, or else *dealing* only in ready money. Then a supplementary Act will have to be passed, dealing with such tenderly in the right of "vested interests," and a 'Supplementary Register' will have to be published, of which we shall be very much ashamed.

To sum up briefly. Those who practise under qualifications not recognised by the "General Council," such as the purchased D.D.S., those who appear before the public as practising Dentistry separately, who are registered as practising Dentistry in conjunction with something else, *Advertisers*, and all anyways guilty of "infamous or disgraceful conduct in a professional respect," have a rod in pickle for them in Clauses 4 and 13 of the Act. And, sir, do you not join me in wishing that this rod may not remain in pickle long?

DISPENSE JUSTICE IMPARTIALLY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your last issue of the 'British Journal of Dental Science' I noticed several letters relating to the "Dentists Act" and its "probable bearings" on the position of the chemists.

In one letter, signed "Justitia," its writer is anxious to know if it was legal for all chemists to register as Dentists, should they desire to do so, before August, 1879. For my

own part, "on the principle of common sense and morality," I should not hesitate for one moment in deciding this apparently mischievous and delicate question.

Where in the world would be the justice of or benefit of an Act of Parliament which has cost so much trouble, expense, and anxiety of mind to the promoters of the Bill if all who desire are entitled to register under its protection? which certainly will be the case if this privilege be held out to the chemist who, prior to the Act coming into force, had not held the name and been known to the public as a Dentist, but who had merely done a little extracting, "as, indeed, who has not taken out a tooth?"

Grant the privilege of registration to this body of men, and every old woman who has dressed a cut finger, and every quack who stands in the market with his pills and bottles, "if only they have at some period or another taken out a tooth," can with equal propriety lay claim to registration, the one as practising Dentistry in conjunction with surgery, and the other in conjunction with pharmacy. For what, indeed, is surgery but dressing wounds, &c., &c., and pharmacy but preparing medicine, &c., &c.?

I understand the passing of the Dentists Act to be intended as conferring a boon on humanity by putting a stop to the growth of incompetent Dental practitioners. But so far from being the case, if chemists "who, as a rule, know nothing at all about Dentistry or Dental Surgery, beyond screwing out a tooth," are allowed to register as Dentists, we say if this is to be the case, so far from the Act being a blessing to mankind it will prove a curse to them, as, instead of checking the growth of incompetent practitioners, it will just have been promoting and stimulating their growth.

The Act was not intended to create but uphold existing interests, but in looking over the Register we see hundreds who, previous to the passing of the Act, or, indeed, even now, have no existing interest beyond two pounds invested in their certificate, and their name being put on the Register.

Yours, &c.,

L. S. STOCKS.

Manchester Road, Haslingden.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :

Twelve Months (post free) 14s. 0d.

 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
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ANSWERS TO CORRESPONDENTS.

- H. T. J., X. Z., and C. POWELL.—Write to J. Smith Turner, Esq., 12, George Street, Hanover Square, W.
- THE LIST OF L.D.S.I.—Mr. G. H. Street writes to say there is no one of the name of G. H. Steel practising Dentistry in Richmond. He had better practise the silence he admires. We only state what is true.
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Communications received from C. Vincent Cotterell, J. B. Gartrell, Felix Weiss, Edwin Saunders, Allen Edwards, W. Marsh, Frank Richardson, "A Constant Subscriber," George W. Baylis, H. Stocks, John Firber, George Ward, A. Clifford-Eskell, George Beairs, "Phosphor," A. H. Best, Douglas Claush, "J. C.," "H. T. J.," "X. Z.," C. Powell.

BOOKS AND PAPERS RECEIVED.

- 'Manchester Guardian,' Oct. 23, 1879.
 - 'Journal of the Chemical Society.'
 - 'Dental Journal.'
 - 'L'Odontologia.'
 - 'Gazette Odontologique.'
 - 'Glasgow Medical Journal.'
 - 'Dental Advertiser.'
 - 'Correspondenz Blatt für Zahnärzte.'
 - 'Colegio Espanol de Dentistas.'
 - 'Dental Miscellany.'
 - 'Union Progrès,' Bulletin du Cercle des Dentistes de Paris.
 - 'Announcement of the Royal College of Dental Surgeons of Ontario.'
 - 'The Dental Profession.'
 - 'Deutsche Vierteljahrsschrift.'
 - 'Giornale Corrispondenza pei Dentisti.'
 - 'Dental Cosmos.'
-

CORRIGENDUM.—Page 365, col. 1, line 2, *for* Douglas, E. C., Brighton, *read* Douglas E. Claush, Brighton.

British Journal of Dental Science.

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Dental Surgery and Medicine.

THE DISEASE OF THE JAWS IN ITS BEARING ON THE PRODUCTION OF DENTAL DECAY.

By J. HENRY REDMAN, D.D.S., Brighton.

I THINK it will be admitted by all who have given the matter any consideration that a gradual deterioration has been going on through successive generations in the jaws and teeth. The jaws have degenerated in size, and the teeth in structure, so that we now find that most lamentable state of things—jaws over-crowded with teeth decayed in all directions. How can we account for this? The general health is better; a great improvement has taken place in all sanitary matters; we are not exposed to the frequent ravages of epidemic diseases, as were our ancestors; the death rate is less, and yet, with all this improvement, our teeth are gradually degenerating; but more particularly is it the case in the last fifty years. I think a reason for this can be found in the fact that we do not use our jaws enough. It is an axiom in physiology that parts used improve, and parts not used deteriorate. The office of the jaws and teeth is nearly abrogated, and the work relegated to the kitchen, where the food is so softened by overcooking as to almost do away with mechanical resistance to mastication. Instead of being an important factor in digestion, mastication now forms a very small part, and the mouth becomes merely a funnel, through which the food is passed into the stomach. The disuse of the jaws and teeth, with the consequent want of development, and overcrowding, play an important part in the production of Dental caries; they may be only predisposing causes, but must not be lost sight of in the investigation of this most important subject.

The overcrowding of the teeth is deleterious in several ways. Firstly, the teeth are forced out of position, preventing their proper articulation, thus reducing their usefulness

in mastication. Secondly, the teeth being wedged one against the other friction is evolved by the movement in the sockets during the process of mastication, injuring the enamel at the point of contact; this disintegrated enamel is carried away in time, and a lodgment formed for particles of food, which soon decompose accompanied by the formation of parasitic growths, these assisted by the fluids of the mouth (in these cases generally of an acid reaction) readily act upon the dentine, which in its present deteriorated condition is predisposed to decay. Thirdly, it prevents that proper cleanliness so essential to the preservation of the teeth.

The remedy for this defective development is very simple, give the jaws their due amount of work, and eat proper foods. Although the remedy is so very simple I am afraid we shall find the application very difficult. As civilisation has advanced our appetites and tastes have become more refined, and a great change has taken place in our food; what was a luxury with one generation has become the necessity of the next; all coarseness has been carefully eliminated, and many very valuable properties rejected; particularly is this the case in the preparation of wheaten flour, in order to make it white and more pleasing to our eyes very important elements are cast aside. The foods that would give exercise to our jaws we should turn from in disgust, so that we are stopped at the very commencement of our efforts. As this great evil is not the result of error in a single generation, but has been increasing through a number, so the remedy must be applied for several successive generations before we can hope to build up again the typical jaw and teeth. Of course it is during childhood, when all parts of the body are in an active state of development, that most good can be done by the proper exercise of these organs. Sufficient importance is not given to the preservation of the temporary teeth. I cannot for a moment entertain the idea that the premature loss of these teeth will cause *contraction* of the jaws, but I believe that it helps to retard, in a great measure, their proper development by impairing their efficiency, thus leading to their disuse; it is impossible for a child to masticate its food thoroughly with defective dental organs.

It is not alone after birth that the food influences the teeth, but while a child is *in utero*, unless the mother takes food rich in bone-forming properties, it cannot be supplied with those elements so essential for the due perfection of the osseous system.

Until the time arrives when we shall have improved dentures, or (as some authorities assert we shall) have become an edentulous race, we must do what we can to

improve the present bad condition of teeth, and palliate the evil.

As the jaws are not large enough to contain their full complement of teeth we must reduce the number of teeth to the capacity of the jaws by removing some. In deciding which to sacrifice the Dentist must be guided entirely by the points of the particular case in hand, but as a general rule the six-year molars are the best to extract to relieve pressure from the front of the mouth, and to allow the second molars to come forward, making room for the due eruption of the wisdom teeth. I know the sacrifice of the six-year molars is condemned by some, but I have constant opportunities for observing the good effect attendant on the practice I advocate; in some cases being able to compare the effect of two modes of practice in the same mouth; on one side, where teeth had been extracted, finding no approximal decay, or, if any had occurred, the fillings remaining perfect; on the other side, where for some reason the teeth had been left, finding approximal decay, ever recurring between all the teeth, caused by the overcrowding, which no amount of skill would arrest. Is it not far better to use preventive measures than to be called upon to try and remedy an evil our neglect of a precaution has helped to produce? I object as strongly as anyone can to the sacrifice of a tooth if it by any means can be saved, but contend that it is far better to have twenty-eight good teeth than thirty-two bad ones, therefore advocate the loss of some for the good of the whole.

Sufficient attention is not paid to the relative size of the jaw, to the number of teeth it will contain. One constantly sees mouths, that have been under treatment for irregularities for two or three years, and sometimes longer, where the Dentists had been trying to force teeth into position where there was no room for them, doing an infinite amount of harm in their efforts, and losing sight of the fact that, should they succeed, in all probability when the wisdom teeth commenced to erupt the work they had accomplished with so much labour would be thrown away, whereas by the timely extraction of some teeth the irregularities would be easily reduced, and the teeth left in a much better condition to withstand the action of destructive agents that come in contact with them.

When the overcrowding is remedied, and such teeth as need it are properly filled, with due regard to cleanliness, the mouth may be kept in a healthy condition. At the same time we must impress upon our patients the importance of supplying their children with proper food (which should include such articles as oatmeal, whole meal, bread, hard

biscuits, &c.), and to teach them the necessity of thorough mastication, thus encouraging better development of the jaws, and improvement in the structure of the teeth.

In the foregoing remarks I do not lay claim to originality, nor have I advanced any new theory, but have simply stated a few facts, and advocated a practice which deserves much more attention than it receives.

Mechanical Dentistry.

NOTES ON DENTAL MECHANICS.

A paper read before the Students' Society of the Dental Hospital of London, October 13th, 1879.

By C. ROBBINS, Esq.

MR. PRESIDENT AND GENTLEMEN,—When asked to read a paper before this Society I chose the present subject because of its importance in relation to the Dental profession. Knowing, too, that we are all more or less acquainted with and interested in Dental mechanics. Its importance cannot be estimated alone from the fact that the Board of Examiners of the Royal College of Surgeons demand it as a part of the curriculum, that we should spend three years in acquiring a knowledge of this important branch, but by its direct bearing upon our present and future interests. I take it that the workroom is the first proper step to the operating room, it is here that we obtain that manipulative skill in the use of tools which will stand by us during our whole professional career. To some it may seem strange that there should be any analogy between packing a vulcanite piece and plugging a tooth, or they may fail to see the connection that striking up a gold plate has with extracting a carious molar. Yet it is a fact that Dental Surgery and mechanics are so intimately and inseparably connected that, to use the words of the President of the Western Counties Dental Association, "To say where the one ends and the other begins is difficult." All surgery is manual skill; it is the brain behind the hand that elevates the character of the work. And that branch of our profession that restores beauty to the countenance, that restores the elegance of speech, that restores the power of mastication, and adds to man's length of days, must not be depreciated.

Who has not observed the torture produced by the wearing of ill made and badly fitting pieces, the permanent injury done to the patient is great, but when we add that there are teeth worn that would disgrace the name of a blacksmith it behoves us to adapt our surgical knowledge to the mechanical skill required, and determine that our work shall be its own advertisement. To this end we should endeavour to attain to a thorough knowledge of the anatomy and physiology of the mouth and its structures, giving a large share of attention to the minute details of each individual case; not working upon hard and fast lines, and by never losing sight of the fact that our patients place implicit confidence in those men whose professional feeling works hand in hand with mechanical skill.

The date of the introduction of artificial teeth into England or Europe is uncertain. Two passages in Ben Jonson's play of "The Silent Woman" (1609) Act I, Sc. I, and Act IV, Sc. I, refers to them in terms which imply their common use. In the latter passage Otter says of his wife, "A most vile face! and yet she spends me £40 a year in mercury and hog's bones. All her teeth are made in the Black Friars, &c."

Forchard was the first to make artificial teeth, in the year 1756, at which time uppers were made as lowers are now, resting on the alveolar border, but all out of one piece of ivory. The first mineral teeth were made in 1776 by a French analytical chemist. At that time they were made in blocks, and it was not till forty years later that they were made separate and with pins. Tortoiseshell digested in water and buffalo-horn pressed into moulds were used as bases, but not satisfactorily, the latter warping. Lemale first made mineral teeth in 1836, and Ash in 1848. In 1843 a manufacturer obtained a patent for making rubber for various purposes, and in 1855, Woodbere brought it under the notice of Dentists, since which time it has been extensively used. When viewing such specimens as are before us this evening, of bone carving, with but few tools and under many disadvantages, we are bound to respect and admire the works of our forefathers in Dentistry. At the same time, knowing that if we live in better times, greater things will be expected from us in the nineteenth century.

Taking it for granted that our patient's mouth is healthy and ready for the insertion of nature's substitutes, the question may arise, what plastic material will be best in order to obtain a good impression? Some prefer beeswax, others gutta percha, or composition, whilst there are those who tell us that a perfect impression can be obtained

only by using plaster of Paris. Without entering into the special advantages claimed by the advocates of either of these materials, we would say do not confine yourself to either exclusively.

In a large majority of cases I firmly believe that with a well adjusted "tray" the Godiva composition in skilled hands will answer all that can be desired. Do not let this material get stale and tough, but by judiciously adding from time to time some of the extra soft, this may be avoided. Then the tray should nearly fit the part we wish to model, and although we may keep up a large stock, yet in some cases it will be best to make a special tray. Take a first impression, and cover the model made with a layer of wax, then cast and strike up a tray of sheet zinc or pewter, of the two I prefer the latter. Thus we get a minimum amount of material, which decreases the time for hardening, and "sucking" to a great extent is prevented.

In some suction uppers, however, I believe that plaster will give the best results. When taking these impressions we should use only the very best plaster, mixed with tepid water (or, should it be preferred, with the addition of a little salt) to the consistence of cream, the quantity should be just sufficient. Be particular to get the patient in a more upright position than usual, and, having introduced the tray, pressure should be applied from behind forward, so that we bring the overplus to the front of the mouth. Sometimes a difficulty will be experienced in removing; a good plan is to lift up the cheek with the fingers, at the same time telling the patient to swallow, the movement of the soft palate will allow the entrance of air, and the impression may be more easily withdrawn. To prevent the plaster from escaping unpleasantly into the mouth and over the throat, I think the following is a good plan, suggested in one of the old Dental Journals. First obtain an impression in Godiva, then cut away the compositions represented by the alveolar ridge, but not touching the palate only to cut a groove across the back part of the impression, build up in this groove a little modelling clay, varying in height from a quarter to one eighth of an inch. Now fill the tray with plaster, and when introduced into the mouth the back part is first brought into position in contact with the palate, which presses the clay into its own form, and so, preventing the plaster escaping in that direction, drives it forward, thus obtaining a sharper impression of the rugæ and palate. This may be modified for lower impressions, the tray also acting to keep back the saliva.

In casting plaster models from plaster impressions, get

rid of any mucous hanging about it by means of boiling water; then paint with a solution of brown Windsor soap. When teeth are standing and especially in such a manner as will make it difficult to cast, use straight galvanised iron or tin wire, so that the tooth may be cut near the neck, and the tooth and pin withdrawn if necessary.

Many substances are in use for hardening models, such as beeswax and resin; stearine; alum and borax. After some experiments recently made, I prefer to boil for fifteen minutes in a saturated solution of borax; and when cool, dust over with a little French chalk. Specimen models may be improved by tinting the plaster with a little dragon's blood, Venetian red, or gamboge. First dry the models, fill up to shape, then boil as above explained.

I retain a lively remembrance of my early difficulties in connection with "metal castings" and can feel for those who are similarly placed, to whom I would submit the following notes: Always keep your sand well covered up when not in use, or else little pieces of plaster and other foreign matter will introduce themselves in some mysterious manner, turning up when least expected or desired, and in those parts of the sand impressions where its presence is least wished for. Avoid getting sand either too wet or too dry; the amount of moisture necessary may be judged by well mixing and then closing a quantity in the hand, which should cohere readily without leaving sand marks in the in the palm. Zinc may be improved by adding a small quantity of grain tin, it should not be poured too hot or a rough model will be the result. In withdrawing the model from the sand I like to level down from ring to model, this will facilitate its withdrawal and give a larger body of metal to strike on, using an old excavator to pierce the model in the centre much may be done by a little coaxing in this as in many other matters. Should, however, a small portion be brought away clearly in an undercut it many sometimes be returned by the aid of light fingers, and secured in place by dropping a very little water from the point of a sharp instrument, in such cases do not pour for a minute or two. A little wax may be used to bridge an undercut and the same carved away on the zinc model; but a better plan is to use the pins referred to just now so that the teeth may be removed in very difficult cases. Some lowers prove very obstinate, and it will be advisable to pack in the model itself sand rather damp to form a "core," then dust over with French chalk or Lycopodium and insert the model in the sand as usual, the "core" will cling to the model, but with care it can be transferred to the proper place and secured

with a little moisture. It is false economy to work with zinc too long without the addition of new metal. Mr. Fletcher gives a hint for working up old zinc as follows: "Make it red hot, then pour $\frac{1}{2}$ an ounce of Hel on it, stirring at the same time with an iron poker. A dross will separate in a few seconds, and the zinc will be quite fluid and fit for use." I have tried this with a fair amount of success. With respect to counter dies, lead is decidedly the best because of its weight and softness. A tin "reverse" is very useful to finish off with.

Instead of dipping the model into a ladleful of lead, the following plan is preferable: Half fill casting ring with sand well beaten down, then place in the zinc model, build round with sand where the impression is not needed; place over this a die ring and pour. This gives a nice level bottom when turned out.

Harris says, "In all cases of melting it is a safe rule to pour the metals at the lowest temperature at which they will flow. It is prudent also to coat the metal on which other metal is to be poured with a thin mixture of alcohol and whiting, to prevent all chance of adhesion." In concluding this part of my subject I would say always keep separate ladles, and coat these from time to time with the same mixture.

(To be continued.)

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM OCTOBER 1ST TO OCTOBER 31ST, 1879.

Number of Patients attended	1208
Extractions { Under 14	369
{ Adults.....	511
{ Under Nitrous Oxide	71
Gold Stoppings	66
Sheets of Gold used, independent of Pellets.....	65
Other Stoppings	345
Advice and Scaling	121
Irregularities of Teeth	17
Miscellaneous.....	34

Total operations 1534

WILLOUGHBY G. WEISS,
House Surgeon.

British Journal of Dental Science.

LONDON, NOVEMBER 15, 1879.

WE have much pleasure in announcing in another page of this number the elevation of Mr. Robert Waller, Dentist to H.H. the Khedive of Egypt, to the dignity of Bey. Mr. Waller was appointed Dentist to the late Khedive shortly before his abdication, and at whose hands he received the Order of Medjidji for services, however, of quite a different kind, viz. his aid in assisting in extinguishing a fire which broke out in and threatened to consume one of the royal palaces. Mr. Waller's predecessor in office was John Finni Bey, who is deserving of our regard for having done much to elevate the position of Dental surgery in Egypt. Whilst pleased to congratulate Mr. Waller upon the distinction conferred upon him, we cannot help expressing the opinion that a similar course of proceeding might be well followed towards those who are appointed to undertake the same responsibilities for other royal personages. It is too generally supposed that the honour of possessing the confidence of such is a full recompense for the time and anxiety these appointments involve. To be so honoured by the sovereign of his country, is no doubt a great distinction and source of satisfaction to the individual so favoured, but yet we know, that to be liable at any moment to be called or, rather, commanded, at the shortest notice to attend at some distant part of the kingdom is, with a large practice, disarranging, to say nothing of the anxiety such immense responsibility must bring.

We cannot see any good reason why one branch of the healing art should be excluded from recognitions justly conferred upon others, and are pleased to think the rulers of

Egypt set an example that might be well followed by the Western powers.

Our attention has been directed to certain circulars issued by some manufacturers, in which, not content with lauding the merits of their own productions, they seek by inference to depreciate those of others. We regret to see a tendency to an increase in this style of advertising, as though it occasionally happens that some advertised articles are of little use, there are very few that have not certain merits or advantages under different circumstances. One amusing feature of the system we are deprecating is that the advertisers, whilst issuing their announcements in the most persistent and prominent fashion, pride themselves that they are not as other men, and that *their* good wine needs no bush.

Literary Notices and Selections.

The Pocket Gray, or Anatomist's Vade Mécum. London: Baillière, Tindall, and Cox. 1879.

THIS little book, intended as a pocket remembrancer of anatomy, is in every way a most useful aid, not only to the student, but to all those who desire to freshen their memory with the least possible fatigue. It is a concentrated edition of Gray, Ellis, Quain, Heath, and others, and so classified and abbreviated that a large amount of information is conveyed simply by the addition of a letter. Thus, when writing on the muscles, F signifies that the attachment is fleshy, T tendinous, and A aponeurotic. Especial prominence has also been given to those subjects which are most likely to be forgotten by the student, whilst osteology has been omitted altogether, the author very properly pointing out in the preface "that this is a subject too large to be treated with justice in so limited a space." Although the compiler of this valuable remembrancer does not affix his name, it bears the character of a well-digested manual, admirably arranged and printed, with a system of lettering that at once attracts the eye and rivets every word upon the memory. The Dental student will find this book, although

but small in size, full of hints and memoranda calculated to keep his memory alive and his examinations successful.—
PHOSPHOR.

REVIEW OF THE CONSERVATIVE TREATMENT OF THE DENTAL PULP.

By LOUIS JACK, D.D.S., Philadelphia.

(From the 'Transactions of the Pennsylvania State Dental Society.')

(Continued from p. 667.)

Accidental Encroachments upon the Pulp.

While there has always been danger of incautiously exposing the pulp by mistaken estimate of the depth of the cavity at a vulnerable point, or by the use of too much force in excavating, the risk has been much enhanced since the introduction of speeded drills, and revolving excavators.

My method of treating these cases is to apply tincture calendula, one part to four of water on a pledget of cotton, which is permitted to remain for a few minutes, when I cover the point of accidental exposure with gutta percha varnish, placing upon this a layer of gutta percha, one side of which is wetted in the varnish ; or a disk of tin previously dipped in varnish may be used. The cavity is then filled temporarily for a few days, and if no untoward symptoms occur, the cavity is then permanently filled. I do not remember having lost a single pulp in recent years when exposed in this way and treated in this manner.

Conditions induced by actual contact of caries, but not subject to attack of odontalgia.

We now come to the treatment of the class of cases in which there has been the greatest disparity of views, and the most conflicting management. The method of some has been principally therapeutical; of others entirely chemical. My own disposition and practice have steadily leaned toward the former. It will not fail to be borne in mind in any consideration of the treatment of this class, that the pulp may have been exposed for many months, and in some cases for years, without a patient having had an attack of tooth-ache, or even of reflected pain; it would appear in such cases to be only necessary to remove the soft caries from the cavity, disinfect and neutralise the fluids of the remaining layer of caries, and cover the bottom of the cavity without causing pressure, or using irritative medicaments. In such

cases I employ carbolic acid, ten per cent. in glycerine, to saturate the remaining layer of decay, first applying tincture aconitum and chloroform in equal parts. I then cut a piece of gutta percha, fitting somewhat the bottom of the cavity, applying gutta-percha varnish to the lower side, and then fill the remainder of the cavity with Hill's stopping, or oxy-chloride of zinc, to be retained until there is assurance that the case may be permanently filled.

But often in the management of cases of this character, we may open the pulp to the air, or the patient may have experienced an evening or two of slight neuralgic pain on the side of the face on which is the afflicted tooth. Under these circumstances my practice is, after employing aconite, as before described, to cover the point of exposure with a paste composed of oxide of zinc and creosote, as first described by Dr. Jas. S. King, in 1873; this, in turn, being covered either with a layer of oxy-chloride of zinc, or of sheet tin, to endure the pressure of the external filling. My success in this class of cases has been various, the majority of them, however, being successful. So many have been satisfactory, that I should consider it malpractice for an exposure of this class to be treated by devitalisation.

The after treatment consists in the application of tincture of aconitum 4 oz., chloroform 2 oz., to the gum over the affected tooth, which may be repeated on each successive day if required. The necessity for the use of aconite in this manner is indicated, if the tooth becomes subject to any pain or is super-sensitive to cold applications.

The response to aconite in these conditions is generally prompt and effective, if properly administered. The application is made by means of a pledget of cotton as large as the end of the finger, saturated to excess, and the excess pressed out; this is then placed over the gum of the tooth as high as possible, and permitted to remain about a minute. To illustrate the power of aconite to control congestion of the pulp, it may not be unprofitable to report the case in my practice of a gunning accident to a boy. His gun had "kicked" him, as he termed it, breaking slightly the corners off the two centrals. The next day, when he came in, the right tooth was decidedly pinkish in colour from the injection of some of the disorganised blood-corpuscles. Without much hope of saving his pulp the gum was scarified, and aconite and chloroform applied. In two days the pinkishness had passed away, but in six months the tooth, while not discoloured, was off-colour slightly. After some months, on excavating a small cavity which had come in the tooth, it was found to be excessively sensitive, which fact removed all

apprehension of devitalisation. The result of this case strengthened my previous exalted estimate of the value of aconite as a remedy when used for this purpose.

The permanent filling of these cases I defer until all disturbance has passed away. I have usually waited from two to five years, according to the apparent necessity, before finishing the fillings. In some instances I have found secondary deposits of bone completely formed, hard and transparent in three years, which has been my shortest time for opening down to the pulp for examination of the old point of exposure. This, however, is a curiosity, the indulgence of which I have abandoned as unnecessary and dangerous.

I have opened pulps apparently of this class which have remained for five years as comfortable as any tooth in the mouth of the patient, and by so doing I have excited disturbances difficult to quell.

My present practice is to fill these cases permanently, after a fair trial of a year or more. This is done without removing the protective dressings over the pulp, which should be reinforced if they are not of a nature to bear the pressure which may be required in the performance of the operation.

Conditions caused by the complete exposure to external irritants, and which have been the source of repeated pain.

Those who have distinguished this class of cases from the simple non-painful ones, must have become aware of the difficult nature of their treatment.

While always presenting difficulties, they vary so much in the symptoms presented at first, and unexpectedly manifested during the course of the treatment, that it is almost impossible to lay down in an article so brief as this must be, a full and clear explanation of all the phases of management.

The unknown and not clearly ascertainable condition of the pulp, consequent upon the long exposure, the changes which in many cases have taken place in the blood-vessels, the nerve-fibres, the connective tissue, render the successful treatment of old cases exceedingly problematical.

A further experience of careful and persistent handling of all classes of exposures during the past six years has not altered my views, as expressed then in writing upon this subject. I have pleasure, however, in being able to state that the additional experience gained in that time, has enabled me to earlier arrive at conclusions, whether there is any hope to be entertained of success in any individual case. The changes in treatment during this period have saved my patients much disturbance, and have led to an increase in the percentage of recoveries of much diseased pulps.

It may be stated as a fundamental principle, that without a state of general health being enjoyed by the patient, it is futile to attempt any given case.

The influence of temperament is also an element of the largest importance, and should always enter into the prognosis. The nervo-sanguine being the most favorable temperament (always recuperative in its nature), and the bilio-lymphatic the most unfavorable, usually tending to chronic disturbances, and to the perpetuation of chronic states.

In order to make clear the application of the treatment to be pursued of the pulps now under consideration, it is a necessary preliminary to make some inquiry of their physical condition, apart from changes which are not ascertainable at the time, such as the deposit of fat granules between the nerve-fibres, and even in their interior, which renders treatment futile. The appearances of the exposed pulp always indicate those alterations in the blood-vessels, which are not irremediable, and toward the relief of which the treatment should be directed.

The capillaries are enlarged, the pulp at the point of exposure is often quite red, which redness passes away by gradual gradation into the normal grey tissue; some are found exuding lymph, and more rarely pus.

It must, however, here be questioned, whether the term pulpitis, which has been used in connection with odontalgia, is a correct one. After a careful examination of very many pulps of the worst description, after the extraction of the aching tooth, the appearances have not indicated anything more than congestion, the pulp tissue being not reddened throughout, and at no point presenting the line of demarcation. A tooth with a normal-sized foramen would appear to be incapable of maintaining its functions under the influence of active congestion. When the suffering of an attack of continuous pulp congestion has been endured for a time the pain ceases, and afterwards the pulp is found to be devitalised by strangulation, I have not been able to come to any other conclusion than that the blood-vessels of the pulp rarely pass beyond the stage of acute congestion, when its death occurs. It was my unexpected fortune once to examine a pulp which had a perfectly defined abscess within its parenchyma, and which presented every indication of having passed through all the stages of inflammation. The whole of the tissue was violently red, and the line of demarcation was purplish, and entirely surrounded a small collection of pus; the tooth was a large central incisor of an adult person. There existed, however, a condition which rendered the supply of blood sufficient to produce the described result.

The foramen was a very large one, being probably one twentieth of an inch in diameter.

Treatment.

As was said before, the treatment should be directed to relieve the congested state of the capillaries. This can only be done by a somewhat prolonged treatment. My practice is to define the borders of the cavity, and remove the softer caries and fully expose the pulp to the air, if it be not already exposed. The immediate pain is relieved by local depletion, when practicable, by creosote or caryophyllum, whichever seems applicable; then I close the cavity with a cap of any substance which will protect from pressure with tincture of aconite beneath. The cavity is filled with cotton, partially saturated with mastic or sandarac, and allowed to remain for several days. Then, if the tooth has remained comparatively comfortable, it is more tightly closed, using Hill's stopping or its equivalent, for an external protection, the dressing of aconite being applied as before, but not permitted to remain long in this condition, since the space between the arched cap and the pulp will fill with effused fluids. The coverings in direct contact with the pulp should be effected as soon as there is reason to believe the effusion has passed away. At this stage of the treatment I invariably, unlike in the previous classes, combine chemical with therapeutical action. The exposed surface is cauterized with pure carbolic acid, which is believed to produce a pellicle of coagulated albumen of a more acceptable nature to pulp tissue than any artificial covering which may be given. The immediate covering of the pulp I make of oxide of zinc and carbolic acid.

The cavity is now filled, every precaution being taken to prevent the least compression. Should the result be unfavorable the conclusion may be safely made in the present state of our knowledge of therapeutics, that the pulp is in an irremediable condition. I would relate here a remarkable case, which illustrates through how many and unfavorable vicissitudes a pulp may be ultimately saved, and protected at last by the deposit of secondary dentine.

Case.—Mesial surface of left lower inferior molar, exposed at both cornua.

Treated as usual, 1871. January 12th, 1872, the cavity was opened, when no apparent change in the appearance was observable. Aconite was applied, also dilute carbolic acid in glycerine; it was then carefully covered. There was, however, some sensation, as the external filling of gutta percha was introduced.

January 20th.—The patient returned, having had some pain for three days, which was increasing. The dressings were removed, when the pulp bled. After the bleeding ceased aconite was applied, and afterwards pure carbolic acid; the pain was entirely relieved. (It should be mentioned, that in removing the gutta percha on January 12th, accidental pressure was made upon the pulp, which excited considerable pain.)

January 29th.—Patient reported no further trouble since seeing him.

October 12th, 1876.—Opened and examined, when one cornua was found entirely solidified; the other was not disturbed. The case was then permanently filled, and has recently been examined and found vital.

The power of the pulp to protect itself by deposits of secondary dentine, or, as it has been more properly designated, reparative dentine, has become an unquestionable fact, and now remains no longer a matter of doubt in the first, second, and third class of disturbances.

It would appear from the accumulation of reliable experiences, that when there has not been disorganisation of the dentinal cells of the periphery of the pulp, this result may be expected, if the treatment is intelligently conducted, and carried out by a hand capable of the necessary delicacy. In the last class, however, it is questionable whether this result ever takes place, and when we have had a broad exposure, which has been at last protected by secondary dentine, as has several times occurred in my experience, the inquiry may be fairly made, whether the diagnosis was not rather a topographical than a physical one, and that the case more properly belonged to the third class, notwithstanding the breadth of the surface exposed to irritating influences. It has been my experience to frequently uncover pulps which have tolerated the dressings with entire comfort for several years—in some cases over five—the gutta-percha coverings having presented no change in their appearance. In some cases the most careful handling has been again followed by considerable disturbance.

My practice now is to fill such cases permanently, after several years of trial, if they remain normally responsive to cold, without removing the coverings over the pulp.

It is gratifying to find that this system of treatment is extending, which gives promise that in the future a difficult and most painstaking operation will be rendered more reliable as its literature enlarges.

“WHAT DOES THE AVERAGE AMERICAN M.D. OR
D.D.S. MEAN?”

AN AMERICAN VIEW OF THE QUESTION.

From the ‘Dental Register.’

“ME AND HIM IS GRADYATES OF THE SAME COLLEGE.”

By W. H. ROBINSON, D.D.S., Suison, Cal.

“DAD,” said a young hopeful to his paternal ancestor, “I can make these old breeches last a while longer, but I am suffering for a bosom pin.” Most of us have seen the boy who said this. His head is covered with remnants of last year’s hat; feet bare, or would be if washed. His ragged breeches are suspended over one shoulder by a piece of “Mam’s” clothes line. He is gazing wistfully at the bosom of his hickory shirt. A feeling of dejection and wounded ambition steals over him as he views that desolate shirt bosom, and thinks of sparkling gems that glitter in other bosoms; but alas, his is bare. Do not stifle his noble aspirations; give him a few dimes and let him go to Peter Funks, get his bosom pin, and be happy. Now, mark you, that boy is honest; that all he lacks is a bosom pin is a conviction so strong, you cannot by any arguments convince him to the contrary, or make him believe that he is not an appropriate subject for a bosom pin. He knows he is. He gets it.

Now, as he gazes complacently at his sparkling brilliant that cost him twenty-five cents, he feels that that was the finishing touch that made him a gentleman, and now he is vastly superior to the intelligent schoolboy who has no bosom pin.

As you and I look at the boy, we think how sadly he needs a Turkish bath, clean clothes, and a few years’ schooling. But in his estimation, a boy that can sport a bosom pin is above such minor considerations. He feels away up in the scale of humanity, and is quite sure the bosom pin placed him there and made him the superior of the gentleman or scholar. Our outside view differs materially from his. We see a rude, uncouth ignoramus and a silly gew-gaw.

The boy is a positivist; knows best a bosom pin was all he lacked; that obtained, his education and manhood are complete. That boy grew to be a man. He did not go to school much. He belongs to too high an order of intelligence to be a common labourer or mechanic—lucky for the mechanics—so he chose a learned profession. Spent a few months in a doctor’s or Dentist’s office; soon knew more than his preceptors; and then discovered that he just lacked one thing to complete his professional erudition, and that

was another bosom pin with M.D. or D.D.S. on it. Give him this glittering bosom pin and he possesses every qualification to take rank as a bright particular star in a learned profession.

Professional bosom pins are cheap. Two full courses—three years' reputable practice in lieu of one—and he dons his new bosom pin, and swaggers as he refers to another of his ilk and utters the classic sentence that heads our article: "Me and him is gradyates of the same college." This classical sentence is not mythical. It is the sublime utterance of a veritable titled graduate displaying his profound scholarship and high professional standing.

Seriously, what does the intelligent public world think of a body of men—if you please, professors in a scientific college, representatives of a learned profession and the faculty of a college or university, admitting by their diplomas to learned professions men utterly ignorant of the first principles of knowledge? Men who cannot write, or utter correctly, a common sentence in their mother tongue. How proud an alma mater must feel over the offspring who says, "Me and him is gradyates of the same college," or who, as a learned expert, displays his bosom pin by swearing in a court of justice, that "*psora sopteunis* was not a nerve, but a bone." I am well aware that isolated cases prove nothing, but the vast number of graduates ignorant of the first rudiments of knowledge are not isolated cases. Not one half of the graduates of our Dental or medical schools have received anything like proper literary or mental training. The result is, they cannot comprehend the literature of the profession or understand or apply the college curriculum. We might as well expect the labourer's muscle to guide the surgeon's knife or the artist's pencil as the undisciplined mind to grasp the principles or comprehend the sciences taught. Had the candidates whom our medical and Dental colleges matriculate a common literary and scientific education to start with, they would certainly merit M.D. or D.D.S. did they even get a good elementary training in the branches they are supposed to become proficient in, in two courses of three or four months. But when a lot of boys without an elementary common school education, are for in from six to eight months crammed with big words and principles that only disciplined minds can grasp, and sciences beyond their mental capacity, what can we expect but alumni whose only claims or evidence of literary or scientific culture are their professional bosom pins. We have just examined the annual announcement of most of our Dental colleges, and the requirements for matriculation are—1. A good moral character; this is

very important, about as important as a pair of trousers and equally as common. No candidates ever apply to our schools who have not a good moral character.

Some few of our schools require some common education—one tells what this is, but most are not fastidious on this point—and never ask the matriculant if he has been to school—and can spell "college" or parse "cat." Now these boys, in two courses of three to four months, or an equivalent for one, are taught as follows:

School No. 1. Practical anatomy, visceral anatomy, regional anatomy, materia medica, therapeutics, chemistry, practical histology, histology, physiology, surgery, oral surgery, operative Dentistry, mechanical Dentistry, pathology and practice, diseases of women, clinics, dissections, &c.

This looks well in print, and is well to the man who has had his mind properly disciplined to comprehend and investigate such subjects. But what are they to the man without literary training or mental discipline? How can a man extract the cube root who knows nothing of multiplication or division? The supposition is an absurdity. All he knows about them is that "me and him is gradyates of the same college."

Here we have a concern, claiming to be a college, saying "*Omnibus ad quos hac litteræ præsentēs pervenimī,*" that they have taken an ignorant boy, and in from six to eight months made him proficient in sixteen scientific branches that, in some cases, are above his comprehension, and to any one of which disciplined minds could give the whole time in which he is vouched for having mastered all.

"I guess I had ortoo know sonthing about Dentistry," said a new fledged Dr., "I spent a hull year in a Dentist's office."

What does the average M.D. or D.D.S. mean? Simply that "me and him" attended two full courses, heard the professors talk, comprehended little of their lectures, and still less of the text-books, memorised and plagiarised enough to answer a few common-place questions. In the same way produce a schoolboy composition, call it a thesis—pay the fee and get the bosom pin.

We are not decrying our medical or Dental schools; their curricula are very good to minds advanced enough to comprehend the sciences taught. Their great mistake is in matriculating students with no education to start with, and to whom a course in orthography and syntax would be much more beneficial as a preparatory step towards the practice of medicine or Dentistry than a course in histology and therapeutics. I am well aware that many of the scholars and

Dentists of the world are M.D.s, and that some D.D.S. rank high among them. But these invariably had good mental training and discipline before they started in professional studies. Many of them do not even wear their bosom pins. You find them stuck away in some little page or “proceedings.” When we hear the backwoodsman say “Me and him is hunters,” the language is no reflection on his abilities as a marksman. But when a titled alumnus of a scientific college has been declared by a learned faculty to possess scholarship, scientific knowledge, and professional attainments sufficient to give him standing in a learned profession—makes it plain to everybody of common intelligence—that said titled scholar is utterly ignorant of the plainest principles of knowledge, and knows no more about the sciences of his profession than a Hottentot does about astronomy. What does the intelligent world think of such fools? What of the university, college, or faculty who declares such ignorami learned, and gives them diplomas of scholarship and scientific attainments that places them, by common consent, in some learned profession? Lion skins may cover asses, but do not make lions.

Professional schools should never even matriculate a student till he has mastered the principles of his mother tongue, and has sufficient knowledge of other languages to enable him to understand scientific nomenclature. In general, he should possess about the grade of scholarship our average literary colleges require for A.B. or B.S. Professional schools that make no requirements of this kind are a disgrace to the intelligence of the age.

We know of nothing that tends so much to degrade our professions—bring their diplomas into contempt and make their titled alumni a laughing-stock—as these “me and him gradyates,” unless it be the diploma mills that bear the name of college, and give titles to bores, profoundly ignorant of the simplest principles of the sciences in which their diplomas say they are masters.

The schoolmaster is abroad in the land; an intelligent public looks more carefully at the man’s attainments than at his titles or diplomas. Legal enactments never can protect the public from ignorant pretenders, or give professional men true attainments. But schools can do both; their true mission is to do it. Shame on the learned profession that has to seek legal protection from ignorant outsiders. Professional schools that would expect thorough literary culture and mental discipline of their matriculants, and then require three or four years’ studious application to the specialties of any chosen profession, would soon give the world a class of

men that would make M.D. and D.D.S. mean more than a piece of parchment with big words that enables the owner to make a brilliant display of his high scholastic attainments by saying, in the vernacular of his alma mater, "Me and him is graduates of the same college."

[THE above having been sent to us with a request for its re-publication and an appeal made to our impartiality not to refuse it insertion, we feel bound to comply. But we must confess we have not been so unfortunate as to come across any such specimens of the D.D.S., and as to the M.D., we can scarcely believe in the existence of any such as are described. The caricature, for we can think it nothing more, may, however, do some good in directing the attention of our transatlantic brethren to the advisability of insisting in all their colleges on the preliminary education and examination required by all our English colleges.—ED. B. J. D. S.]

Dental News and Critical Reports.

DENTAL REFORM COMMITTEE.

THE final meeting of this Committee was held on the 27th ult. at the Dental Hospital, Leicester Square, the President, J. TOMES, Esq., F.R.S., in the chair.

The minutes of the previous meeting having been read and confirmed,

The CHAIRMAN said the Committee had now completed the work undertaken by them, namely, to obtain, if possible, registration and compulsory education of Dentists. They had succeeded in all they had undertaken, and with a degree of completeness very unusual in educational measures. The last and consummating act was the publication of the Register, and with the appearance of the Dentists' Register the functions of the Committee terminated. It was a matter of congratulation to the members of the Committee, as at present constituted, that at their many meetings they had not had a division, and that on only one occasion, and that strictly a formal one, was a hand held up against a motion. The Committee had a certain amount of money in hand which he thought could not be better bestowed than by handing it over to the Representative Board of the British Dental Association, to be expended in supporting the provisions of the Act, for the gaining of which it had been subscribed. It would not require much argument to point out that that

was the better course, and having made the suggestion he would leave it to members of the Committee, if approved, to bring forward a resolution to that effect.

Mr. UNDERWOOD moved "That the balance of the fund subscribed for the use of the Dental Reform Committee, should any remain after the settlement of all claims, be handed over to the Treasurer of the British Dental Association, to be applied at the discretion of the Representative Board in supporting, by legal means or otherwise, the provisions of the Dentists Act."

Mr. ROGERS, of Cheltenham, seconded the resolution, which was agreed to.

The TREASURER, Mr. Parkinson, reported that the balance to be handed over was about £200. The total amount received had been £633 1s. 6d., and the expenditure had been about £430.

The CHAIRMAN said it was important to provide for the safe custody of the minute books of the Committee and other records. The Association might require to refer back to see what had been done, and if the proceedings of the Committee became matter of history reference could then be made to the various documents, which would give an accurate account of the business that had really been transacted.

Mr. WOODHOUSE moved "That the minute books, the Treasurer's books, and any other records or papers, the property of the Dental Reform Committee, be handed over to the Executive of the British Dental Association for the purposes of reference and of safe custody." This was a most important epoch in their history as a profession, and it was most desirable that the road by which they attained the position they now occupied should be clearly seen in the future. He was quite sure the documents could not be left in better hands than those of the British Dental Association.

Mr. MANTON seconded the resolution, which was agreed to.

Mr. STEEL said the resolution he had to propose was one which was not always agreeable. The prospects when the Committee was first formed were not altogether favorable to a successful career, and there was some doubt as to whether the scheme proposed could be carried out. The result showed what could be done when a good captain was at the helm. He had now simply to propose the dissolution of the Committee, *i.e.* "That the Dental Reform Committee be now dissolved."

Mr. VASEY said he seconded the resolution with no unhappy feelings. Their work had been so thoroughly and perfectly accomplished that they could retire with honour.

Before the resolution was put,

Mr. WOODHOUSE said the Committee would be very sorry to expire without expressing their feeling towards their worthy chairman. They had been congratulating themselves very much upon their success, and with good cause, and though he only joined the Committee at a late hour he had been sufficiently long connected with it to know how largely their thanks were due to their worthy Chairman, Mr. Tomes, and their excellent Secretary, Mr. Turner. (Applause.) He therefore begged to propose a hearty vote of thanks to those gentleman.

Mr. UNDERWOOD had great pleasure in seconding the motion. Having been somewhat behind the scenes he was quite sure that had it not been for those two gentlemen the Bill would not have passed through Parliament, certainly not in one session. (Hear, hear.)

Mr. RYMER said when the Committee was first formed he expressed the opinion that its aim could not possibly be accomplished for years. The work seemed so heavy and so onerous that it appeared useless to expect that the result would be attained in anything like the time in which it had been accomplished. It was only by the exercise of the most unremitting attention and the greatest abnegation of self that the grand result could have been achieved, and he was therefore glad to add his hearty support to the resolution. He did not think the valuable assistance rendered by their Treasurer should be ignored (hear, hear), and therefore suggested that the name of Mr. Parkinson should be included in the resolution.

Mr. DENNANT said, having taken an active part in the early stages of the agitation, which led to the establishment of the Dental Reform Committee, he might take upon himself to express the feelings of those who were early interested in the promotion of this work, and very heartily and gratefully did he endorse every word that had fallen from the previous speakers. The profession would never forget the services that had been rendered by their Chairman and Secretary. (Hear, hear.)

Mr. SIMS (Birmingham), as representing country members, said he constantly heard the opinion expressed that they could not be too grateful for the work carried to so successful an issue and mainly through the instrumentality of these gentlemen. He had, therefore, great pleasure in supporting the resolution.

The resolution was then unanimously agreed to.

The CHAIRMAN heartily thanked the Committee for their kind expression of feeling in his favour. He had done the best he could, and nothing more than was a simple duty.

It seemed rather to lie in his way to work upon a subject of that kind, and had he not done the best he could in furthering the interests of the profession and of the public he could not have regarded his conduct with anything like satisfaction. It constantly happened in society that one or two men were so placed that they could help forward in a particular cause more readily than any others, and if, being so placed, they failed to take the opportunity, they were not deserving of the respect of their professional brethren. As to the time and trouble, as far as he was concerned his time and trouble of late years had been of very small account, and therefore that which he had bestowed upon the cause had been bestowed most willingly. That the work had come to so successful an issue was to him a source of great gratification. At the same time he must not be understood to take credit to himself, because his power had entirely rested on the good opinion and the almost unanimous support of his professional brethren. No doubt there were persons who disapproved of what had been done, and had thrown obstacles in the way, but those obstacles had only stimulated them to do their work perhaps better than would have been the case if they had had no obstacles to surmount. (Hear, hear.) Their work had been criticised. It had been said that they let into the profession all sorts of people who did not belong to it. As a matter of fact, the writers were not quite well informed when they said so. There was, he believed, no way in which they could have obtained an Act of Parliament for registration other than that which they followed. The only way in which they could proceed was to leave it for persons to declare whether they were in *bonâ fide* practice, but, at the same time, means of action were provided in case such declarations were found to be incorrect; of course, they could not tell who would declare themselves to be Dentists until the Register was published; they had only lately become informed as to who claimed to be Dentists, and it was with that Register that the British Dental Association, formed in March last, would have to deal. It would be for that association to sift the Register thoroughly, to take great care that no one was excluded or interfered with who had a right to be there, but, at the same time, to point out to the Medical Council those who, not being Dentists, had no right to be there. No doubt a different course might have been attempted, but he believed it would have been found to be quite impracticable in a profession with members whose numbers, whose qualifications, and whose residences were not known. Under such conditions no body like the Medical Council could have attempted an individual investigation of

the claims for registration ; it was therefore left to persons desiring registration to declare whether they were in practice, and under what conditions, whether separately or in conjunction with pharmacy, or medicine, or surgery. He thought it would be found that the Dental Reform Committee had not only followed the only course open to them, but that it had also been a liberal and wise course. (Hear, hear.) He thanked them heartily for the kind expression of opinion in his favour.

Mr. PARKINSON, in responding, said he entered upon this business with great pleasure, because he had looked at it all his life as absolutely necessary to take place some day. Any time or trouble that he had devoted had been given in a cause of which he very much approved, and if he met with their approval he was sufficiently rewarded.

Mr. TURNER said their kind expression of thanks and approval of what he had helped to do in the business which had been accomplished was very gratifying to him, and repaid him to the full for a great deal of hard work which he had to undertake in helping forward this measure. He could not say much about the skill shown in his part of the business ; the work had been very hard and pressing, and had to be executed very often in a rough and ready manner. If any offence had unavoidably been given, he hoped it would be believed that he had no desire to offend in any way, but that it arose from his anxiety to do his duty in the cause he undertook to forward. They must not forget the services of their Vice-President, Mr. Underwood, and he would propose that the hearty thanks of the Committee be given to that gentleman.

Mr. RYMER seconded the resolution, which was agreed to.

On the motion of Mr. DENNANT, seconded by Mr. PARKINSON, it was resolved—"That the Dental Reform Committee having heard with deep concern of the great and irreparable loss which their valued friend, Sir John Lubbock, has sustained in the death of Lady Lubbock, feel that they cannot separate at this their last meeting as a Committee without recording and conveying to Sir John Lubbock the expression of their most sincere and respectful sympathy with him in his deep affliction."

The motion for the dissolution of the Committee was then put and agreed to, and the proceedings terminated.

REPRESENTATIVE BOARD OF THE BRITISH DENTAL ASSOCIATION.

OCTOBER 27TH, 1879.

J. TOMES, Esq., F.R.S., in the Chair.

THE minutes of the previous meeting were read and confirmed.

THE CHAIRMAN said this meeting has been summoned as an immediate consequence of the publication of the Dentists Register, the issue of which brings into active operation the association the 21st Bye-law of which was framed for the purpose of rendering assistance in carrying out the spirit and the provisions of the Dentists Act.

He had also to announce that by a resolution of the Dental Reform Committee the funds which remained at its disposal, the Committee itself having been dissolved, were to be handed over to the Association, subject to the condition of their being applied to purposes relating to the carrying out of the provisions of the Dentists Act.

In his opinion the Association must regard the Act from the most liberal point of view. It must endeavour to detect error or actual fraud, but it must also protect from false allegations those who had a distinct right to be upon the Register. Its duties were so far twofold. But whilst the Dentists Act provided for the interests of the public and of the profession it was not intended to bring into existence as Dentists persons who, but for that Act never would have thought of becoming, or of styling themselves Dentists. (Hear, hear). It is said there were many persons on the register who may have extracted a tooth now and then, but who had no thought whatever of being considered as Dentists; but who, with the Dentists Act before them, on the chance of escaping inquiry have thought fit to register themselves as *bonâ fide* Dentists and it is reported with no better reason for their doing so than could be given for any person who tied up a cut finger declaring himself to be a surgeon. Therefore whilst the Association endeavoured to protect from incorrect allegations a person who had a distinct right to be on the Register, they must, he thought, at the same time be prepared to fulfil the engagement accepted in Bye-law 9 to bring before the notice of the Medical Council any case of Registration which was palpably incorrect. Before proceeding to other business he would call upon the Secretary to read any letters that had been addressed to the Association.

MR. TURNER read letters from Mr. Campbell and Mr. Spence Bate, Mr. Kyan, and Mr. Hepburn, regretting their inability to attend the meeting. Also letters from Mr. C. J. Fox, of London, and Mr. C. Wall, of Dublin, withdrawing their names as members of the Association.

On the motion of Mr. Chas. Vasey, seconded by Mr. Rymer, the resignation of Mr. Fox and Mr. Wall were accepted.

MR. THOS. ROGERS moved "That the Representative Board of the British Dental Association desires to express its gratitude to the General Medical Council for the prompt and efficient manner in which the Dentists Act has been brought into full operation; for the determination of a satisfactory Dental curriculum accepted by the several licensing bodies; and for the impartial manner in which the Executive Committee and General Council have dealt with the registration of Colonial and Foreign Dental qualifications."

MR. CAMPION seconded the resolution, which was agreed to.

MR. CHARLES SIMS moved "That a Business Committee, composed of six members, be appointed, who shall arrange and report on matters to be brought before the Representative Board."

MR. HUET (Manchester) seconded the resolution, which was agreed to.

On the motion of Mr. SIMS, seconded by Mr. RYMER, the following gentlemen were placed on the Business Committee:—Mr. Tomes, Mr. Turner, Mr. Parkinson, Mr. Underwood, Mr. Saunders, and Mr. Thomas Rogers.

The CHAIRMAN said it would be in conformity with By-law 21 to have a committee for the purpose of investigating and reporting upon cases of alleged incorrect registration. It might be said that the Business Committee should perform the office, and perhaps that Committee might do so, but such a committee should, he thought, consist of gentlemen whose position was absolutely assured, who could not possibly be gainers by excluding others from the profession, and could not be justly accused of any personal interest in the cases considered.

MR. DENNANT asked if every case would be brought before the General Committee before being referred to the Medical Council.

The CHAIRMAN thought every case should for the present come before the General Committee.

MR. MOON thought that if the Board were appointing such a committee they would select the very names that were on

the Business Committee, as being men whose positions were unassailable, and as being really so much at the top of the tree that they could do what other men could not.

Mr. C. SIMS said the Business Committee should, he thought, undertake the investigation, &c.

The CHAIRMAN said the power of that Committee might be extended by saying that it should also investigate and report upon cases of alleged incorrect registration.

The letters read before the meeting, taken with many verbal communications to the same effect made to the Secretary, indicated the existence of a strong feeling in favour of the establishment of a journal; but as the Board knew very little about the business of conducting a periodical it would be desirable to appoint a committee to consider and report upon the expediency of establishing a journal of the Association, and, if deemed expedient, on the best method of carrying the publication into effect. He would suggest the names of Mr. Spence Bate, Dr. Smith, of Edinburgh, Mr. Brownlie, of Glasgow, Dr. Merryweather, of Sheffield, Mr. Waite, of Liverpool, Mr. Turner, Mr. Saunders, and Dr. Walker.

Mr. HUET said he should be very pleased to propose the formation of such a committee. The gentlemen named would be able to judge accurately whether a journal was really required. He proposed the resolution as suggested by the Chairman, with the addition of the names of Mr. Charles Tomes, Mr. Coleman, and Mr. Moon.

Mr. VASEY seconded the resolution, which was agreed to.

The CHAIRMAN, before proceeding further, read Counsel's opinion as to the legal interpretation of certain clauses of the Dentists Act, the case having been drawn by Messrs. Flavell and Bowman.

Case for opinion of Mr. Fitzgerald.

1. The Board, with the view of rendering assistance in carrying out the spirit of the Dentists Act, desire to possess a more defined statement of the conditions which entitle a person to be placed upon and to remain in the Dentists Register as having been *bond fide* engaged either separately or in conjunction with medicine, surgery, or pharmacy at the passing of the Dentists Act.¹

a. For example, is a person entitled to remain on the

¹ British Dental Association, Bye-law 19: "The Representative Board shall receive and investigate, by the help of professional assistance or otherwise, charges of offences alleged to have been committed against the Dentists Act, and if such charges are found to be supported by sufficient grounds, each case, with the supporting evidence, shall, if not otherwise disposed of, be brought before the General Medical Council."

Register who declared himself to be engaged in the practice of Dentistry *separately* while he was at the same time engaged also in some business not mentioned in the Act?

b. Or is a person who declared himself to be engaged in the practice of Dentistry in conjunction with Pharmacy, but whose name was not in the 'Chemists' and Druggists' Register' (kept under 25 and 26 Vict. Chap. 56) which includes all who have a legal right to practice pharmacy, &c., entitled to remain on the Register?

2. What constitutes *bonâ fide* practice in the meaning of the Act?

a. Is an assistant who was in a chemist's shop (even if registered in the 'Chemists' and Druggists' Register') where teeth were occasionally extracted, entitled to remain on the Dentists' Register as in *bonâ fide* practice before July 22nd, 1871?

b. Does the occasional performance of a Dental operation, such as the extraction of a tooth, constitute *bonâ fide* practice?

c. Does the *bona fides* apply equally and separately to the practice of Dentistry and of pharmacy, and can an assistant in a chemist's shop, who is not registered in the 'Chemists' and Druggists' Register' be regarded as in the *bonâ fide* practice of Pharmacy?

d. Is a person who assisted a Dentist in his practice, but who was in no way responsible to the parties practised upon, and for whose acts in the capacity of Assistant his employer was wholly responsible, entitled to be upon the Dentists' Register on the ground of *bonâ fide* practice before July 22nd, 1878?

3. Can the name of a person be removed from the Dentists' Register at his own request without any reason being given by him for the removal (see Sec. 12, 3 of the Dentists Act) and copy resolution of the Executive Committee of the Medical Council also sent herewith?

If a cause for withdrawal from the Register must be given, will the following, or a declaration to the effect, bar the *restoration* of the name in the Register on the ground of "practice before July 22nd, 1878?"

To the Registrar,

I, A. B—, not being engaged in the practice of Dentistry or Dental Surgery desire my name to be removed from the Dentists' Register, and I hereby relinquish all claim to its restoration in the Register on the ground of having been in practice before July 22nd, 1878, or unless supported by a recognised Dental diploma.

4. Is the witness to the declaration (Schedule Dentists Act) a witness as to the facts of the declaration or merely as to the signature of the declarer—see Sect. 35?

Opinion.

1 (a). A person who, being at the passing of the Act engaged in the practice of Dentistry, and also in some business not mentioned in the Act, declared himself to have been engaged in the practice of Dentistry separately, is liable to have his name erased from the Register.

(b). A person who declared himself to be engaged in the practice of Dentistry in conjunction with Pharmacy, but whose name was not in the 'Chemists' and Druggists' Register,' is liable to have his name erased from the Register.

2 (a). I think that an assistant in a chemist's shop, where teeth were occasionally extracted, even if registered in the 'Chemists' and Druggists' Register,' cannot be considered as engaged in the *bonâ fide* practice of Dentistry, so as to entitle him to remain on the 'Dentists' Register.'

(b). I think that the occasional performance of one class of Dental operation, such as the extraction of teeth, does not constitute *bonâ fide* practice of Dentistry.

(c). The *bona fides* applies equally and separately to the practice of Pharmacy, and an assistant in a chemist's shop, not registered in the 'Chemists' and Druggists' Register,' cannot be regarded as in the *bonâ fide* practice of Pharmacy within the meaning of the Act.

(d). Whether a Dentist's assistant can be considered as in *bonâ fide* practice, so as to entitle him to be on the Register, depends on the amount and nature of the assistance furnished by him to the Dentist. The assistance must be such as to require the possession of *some* Dental skill and knowledge.

3. The name of a person can be removed from the Register at his own request, without any reason being given by him. Of course the Registrar would require a *written* request, signed by the person making it. The restoration of a name once removed is a matter for the discretion of the General Council (S. 14), after the facts of the case have been ascertained by the Standing Committee appointed under S. 15. I do not think that a person desiring to have his name removed could be legally required to make a declaration relinquishing all claim to restoration on the ground of *bonâ fide* practice before the passing of the Act.

4. The witness to the declaration in the Schedule to the Dentists Act is a witness merely to the signature of the declarer; but if he signed, knowing the declaration to be

false or fraudulent, he would be liable to be proceeded against under S. 35.

(Signed) G. A. R. FITZGERALD.

WESTMINSTER; 20th October, 1879.

Having heard the opinion he would ask what the Board would like to do in reference to the appointment of a committee to investigate and report upon these cases, whether they would entrust the matter to the Business Committee or appoint a separate committee.

Mr. MOON said he would propose that the gentlemen who had been appointed on the Business Committee, with power to add to their number, be requested to undertake the duty of investigating these cases, "That the Business Committee for the time being be empowered to investigate and report upon cases of alleged incorrect registration."

Mr. ROGERS seconded the resolution, which was agreed to.

Mr. ROGERS asked if the Committee would have power to add to its number.

The CHAIRMAN said if the next resolution upon the paper was passed the need for increasing the number would in great part be met :

"That members of the Association resident in provincial centres should, in the event of cases of alleged incorrect registration arising in their respective towns or districts, be recommended to form local committees for the purpose of collecting conclusive and available evidence of the truth of such allegations before transmitting the cases either to the Representative Board or elsewhere."

Mr. MOON said he should have great pleasure in moving that resolution.

Mr. VASEY seconded the resolution, which was agreed to.

Mr. DENNANT suggested that a copy of Counsel's opinion should be published and furnished to the Pharmaceutical Society, and the Chemists' and Druggists' Association.

Mr. ROGERS then proposed, and Mr. T. A. ROGERS seconded, the election of Dr. Walker to fill the vacancy on the Representative Board caused by the retirement of Mr. C. J. Fox.

The resolution was agreed to.

Mr. DENNANT, with regard to the Committee having under consideration the Benevolent Fund, suggested that some three or four gentlemen should be added to the sub-committee, to prepare a report upon the subject, to be submitted to the first General Meeting of the Association. He would suggest such names as Mr. Saunders, Mr. Woodhouse, and Mr. Coleman, to take into consideration the whole

question and prepare a report for the consideration of the Board, for the purpose of presentation to the General Meeting.

Mr. UNDERWOOD proposed, and Mr. WORMALD seconded: "That the opinion of Mr. Fitzgerald as read by the Chairman be printed for the use of the British Dental Association, and a copy sent to the General Medical Council."

Agreed to.

Mr. CHAS. TOMES moved "That Mr. Saunders, Mr. Woodhouse, Mr. Coleman, and Mr. Thos. Rogers be added to the Benevolent Fund Sub-committee, and that that sub-committee be requested to prepare a report upon the subject for presentation to the first General Meeting of the Association."

Mr. ROGERS (Cheltenham) seconded the resolution, which was agreed to.

Mr. MOON proposed "That the Secretary, in the absence of an Assistant Secretary, be empowered to call in clerical assistance."

Mr. THOS. ROGERS seconded the resolution, which was agreed to.

On the suggestion of Mr. SIMS it was left in the discretion of the Chairman and Secretary to send an abstract of the proceedings to the journals.

A vote of thanks to the Chairman, moved by Mr. CAMPION, and seconded by Mr. C. Sims, brought the proceedings to a close.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

ORDINARY MEETING, MONDAY, NOVEMBER 3RD, 1879.

EDWIN SAUNDERS, ESQ., President, in the Chair.

ON taking his seat, the PRESIDENT said he was sorry that the hopes he had held out at the last meeting, that the members would have the pleasure that evening of listening to a paper by Professor Flower, could not be fulfilled. He hoped, however, that nothing would occur to prevent Professor Flower from reading his paper at the December meeting.

The following gentlemen were then balloted for and duly elected:—Messrs. Robert Waller, of Cairo, Chas. J. Noble, of South Kensington, and Thos. Clements, of Bayswater.

The following gentlemen were announced as candidates for election at the next meeting:—Dr. Taylor, of Peschawur, India, Mr. Chas. Foran, of Eastbourne, and Messrs. George Parkinson and F. Ewbank, of London.

MR. CHARLES S. TOMES related a case and made some remarks respecting the causes of the failures which occurred in treating dead teeth. He thought that too little was known on this subject, and that sufficient attention had not been paid to it. One cause of failure, alveolar abscess, was indeed now pretty well understood, and if the inflammation was not of too long standing the treatment by the injection of antiseptic solutions was very satisfactory. As the result of long-continued inflammation, certain changes took place in the ends of the roots, and in these cases extraction and replantation after removal of the diseased portion was the only remedy. But cases were not very unfrequently met with which looked promising at first sight and yet did not turn out successful; after trying all you knew, and exhausting your own patience and that of your client, you eventually had to extract. The following case was an instance:—A gentleman came to him three years ago with a carious upper molar; the pulp was not involved. The tooth was filled and gave no trouble for two years, when the pain returned, and the caries was now found to have extended to the pulp cavity. After clearing out the cavity arsenic was applied to the pulp, but this was partially calcified and was killed with difficulty; a second application was necessary, and even then so much sensibility remained that Mr. Tomes adopted the very unusual course of applying arsenic to the roots. The tooth, however, continued tender and useless, and after some further treatment had to be extracted. It came out very easily, and on inspection the roots were found to be rough and quite bare of periosteum. He thought that some light was thrown on the cause of this failure by the recent researches of Herksmann and Bödecker. These observers found that the canaliculi of bone or of cementum are, during life, occupied by protoplasm which thus extends in the form of a fine network throughout the substance of the bone. A tooth is thus connected with its alveolus by the vessels which enter at the apex of the root, and also by those fine processes of protoplasm which enter the canaliculi and extend from the wall of the alveolus to the pulp chamber. He thought it impossible, in the case he had related, that the arsenic, as the result of the repeated applications, had not only destroyed the pulp but had also penetrated into the canaliculi, and had destroyed the protoplasm also, leaving the tooth completely dead and, in fact, no better than a foreign body lying in the alveolus.

The view that a certain amount of vitality and vascular connection was necessary for the retention of a tooth was confirmed by facts in comparative anatomy. Some animals

had teeth which ceased to have any vascular connection with the jaw when they had arrived at maturity, but such teeth were always temporary, being shed and replaced by another which had been rising up behind it. A similar process was seen in the growth of epithelium; the deeper layers showed evidence of vitality, whilst the superficial layers were practically dead, but these were constantly being thrown off. He thought that too much attention had been paid to the escape of septic matter from the apex of the roots, and too little to what went on in the dentinal tubule. We knew that the dentine sometimes became offensive, and he thought this was probably caused by the death and decomposition of the protoplasmic fibrils. The subject offered a wide field for future investigation.

He would take this opportunity of calling attention to a point of manipulative detail. Most of those present must have had experience of the fact that root stopping was sometimes a very difficult operation; for instance, when the canal was very narrow and tortuous. In such cases he had found shellac very useful, when warm it could be drawn out into very fine threads and these threads could be coaxed up any root canal, no matter how small or how much curved it might be. He passed up several of these threads, one after another, then passed up a hot wire or inserted a drop of spirit and thus obtained a very satisfactory stopping.

Mr. COLEMAN said he was sorry that Mr. Tomes had not brought forward his communication in the shape of a paper, instead of as a casual communication; it would have given rise to an interesting and instructive discussion. In a paper which he had read before the Society some years ago on the treatment of dead teeth by arsenic, he had called attention to the fact that an offensive condition of the dentine might follow the use of this agent, and had even suggested as a possible explanation that this might be due to the death and decomposition of the contents of the canaliculi. In his experience, however, this was a very exceptional occurrence, and he believed that the use of arsenic, as it was now generally applied, was almost entirely free from danger; certainly he had himself used it in some hundreds of cases with very satisfactory results. There was one point in which Mr. Tomes appeared to differ from the conclusions of Messrs. Herksmann and Bœdeker; these observers described a protoplasmic network penetrating the enamel as well as the dentine, but Mr. Tomes had spoken of the dentine as dead tissue. He should be glad if Mr. Tomes would state whether this difference was intentional on his part.

Mr. GADDES said that with regard to the cementum con-

taining protoplasm in the lacunæ and canaliculi, in Mr. Tomes's valuable manual on 'Dental Anatomy' there would be found two statements—one that it is "probable that the lacunæ are filled up by soft matrix," and the other that a lacuna "consists of uncalcified matrix, and in this situation lay the nucleus of the cell," in each case negating the idea of their containing protoplasm. In the review of Mr. Tomes's book, which was published in the 'Monthly Review of Dental Surgery,' in January and February, 1877, he (Mr. Gaddes) then took exception to this view of Mr. Tomes'. With regard to the lacunæ and canaliculi of the cementum not containing protoplasm, the line of criticism he took was, and is, that if the lacunæ and canaliculi cementum did not contain protoplasm, and as they knew of no other cavities except the lacunæ and canaliculi, where was the protoplasm or living matter contained? and if there were no living matter in the cementum, what was meant by necrosis? What was there to die if there were no living tissue? He was rather glad to hear Mr. Tomes implying a coincidence with the observations of Bödecker that there was protoplasm in the lacunæ and canaliculi of the cementum, but he should be glad to hear him state it definitely and not impliedly. Mr. Gaddes thought that, included in what he had said would be the statement made with regard to the molar tooth Mr. Tomes had exhibited, in which he (Mr. Tomes) theorised that the arsenic had penetrated through the dentinal tubes and had reached and destroyed the protoplasm of the cementum, and that the tooth was, "to all intents and purposes, a dead tissue." He believed there were recorded cases in which old teeth that had been lying about the workroom had been transplanted into the sockets from which carious teeth had been removed, and these, he believed, had been retained. Such cases were recorded in the American periodicals of some two or three years ago, although he could not vouch for the truth of them; but if such were the case, there must be some other explanation of the means by which a foreign body, such as a tooth essentially dead, was tolerated.

Mr. HUTCHINSON asked whether the death of the periosteum in Mr. Tomes' case might not have been due to the overcalcification of the tooth indicated by the partially calcified pulp; in such cases the whole tooth was found to be unduly heavy and too solid in texture, the protoplasm would thus be reduced in amount and probably also in vitality.

Dr. FIELD thought that Mr. Tomes had omitted to notice one of the most common causes of failure in the treatment of dead teeth. He had sometimes treated five or six such in

one patient all successfully, and in another patient had had an equal number of failures; this could only be due to the constitutional state of the patient, a difficulty which it was in many cases impossible to combat. For root stopping he now used nothing but cotton-wool and creosote; he had formerly used gold and gutta percha, but had found his present practice much more successful. To destroy the nerve in the roots he filled the pulp cavity with the cotton and creosote and left it in for a week. The root canals could also be filled with it introduced on the point of a fine wire. It had never happened to him to have a tooth killed by arsenic, but he knew it might occur. When he did use arsenic he never left it in the tooth for more than twelve hours, and had never found more than two applications necessary.

The PRESIDENT said he joined with Mr. Coleman in regretting that Mr. Tomes had not brought forward the subject by means of a paper, instead of making it a casual communication: he must call upon him for his reply.

Mr. TOMES said he was aware that Bödecker described a protoplasmic network in the enamel, but he (Mr. Tomes) did not believe it to be of the nature of protoplasm, but that it answered to the fibrous stroma which was seen in epithelial tissues elsewhere. In other respects, he was inclined to agree with the conclusions of Messrs. Herksman and Bödecker, though he had not yet verified all their observations. He had not asserted that the arsenic had travelled through the dentine in the case he had related, but had only suggested it as possible, and it was a fact that in former days when arsenic was not unfrequently applied externally for the sake of its anæsthetic effect, death of the pulp used occasionally to occur. As to the use of shellac, he did not employ it very often, but in the cases he had indicated he had found it very useful; fine and tortuous canals which could not be filled with cotton, could be filled with this substance without much difficulty.

Mr. HUTCHINSON then gave a short account of his recent tour in the United States, and exhibited some instruments which he had brought back with him, none of which, however, presented any strikingly novel or interesting features. The first was a set of instruments with nickel plated handles, made by Johnson Brothers. The points were removable so that they could be taken out when they required repointing and tempering, and a broken instrument could be readily exchanged for another. The price of the case was very little higher than that usually paid. The second was a mallet designed by Dr. Richmond, which gave an elastic and dead

blow very like that of a hand mallet, and was at the same time very simple in its working. Mr. Hutchinson concluded by gratefully acknowledging the kindness and hospitality with which he had been received by his professional brethren in the States, and especially mentioned his obligations to Dr. Northrop, President of the Odontological Society of New York, who being himself a member of this Society, had most flatteringly honoured it in the person of its Honorary Secretary.

The SECRETARY then read the Report of the Sub-committee appointed last session to inquire into the Composition and Properties of various Patent Fillings.

The Patent Fillings reported on by the Sub-committee were, Ash's Improved Rock Cement, Fletcher's White Enamel and Dental Porcelain, Poulson's Mineral Plombi, and Slayton's Cohesive Felt Foil.

On analysis, Fletcher's Dental Porcelain and Poulson's Cement both proved to consist of pyrophosphate of zinc, with a slight excess of oxide of zinc and some silica. An analysis of Fletcher's White Enamel showed it to be an oxychloride of zinc.

Ash's Rock Cement proved to be an oxychloride of zinc with an excess of oxide of zinc and some silica.

All these compounds were subjected to the action of dilute acetic, tartaric, citric, and malic acids. Fletcher's White Enamel and Ash's Rock Cement were acted upon by the acid solution to a greater extent than the other two compounds, Fletcher's giving better results than the other. In the case of the two first mentioned, the action of the acid seemed to be confined to the uncombined oxide of zinc, and its amount varied according to the excess of the oxide which was present. The result of the analysis of Slayton's Felt Foil has been already published.

As regards behaviour in the mouth the Sub-committee have formed a better opinion of the pyrophosphate than of the oxychloride fillings. Poulson's Mineral Plombi also wore away quickly in the mouth and gave evidence of considerable porosity. Fletcher's White Enamel gave better results.

Slayton's Felt Foil wore well in the mouth, but experience had shown that it required to be packed *dry*. When capped with adhesive gold no amalgamation took place, but there was distinct amalgamation with non-adhesive gold.

The report (a full account of which will appear in our next) is signed by Messrs. Chas. S. Tomes, S. J. Hutchinson, Thos. Gaddes, and Robert H. Woodhouse.

Mr. COLEMAN showed a specimen sent to him by Mr. Edward Fothergill. The case had been described by that

gentleman in the 'British Journal of Dental Science,' as one of "cystic disease of the upper maxilla," but the patient's trouble was really caused by a larger odontome attached to the left upper canine. The specimen had since been more carefully examined and proved to be an example of Brucker's fourth division, "odontomes réticulaires." Mr. Coleman then read the notes of the case as given in our June number.

Mr. WOODHOUSE said he was anxious to warn members against a man who was then going round getting sets of teeth mounted in gold; having succeeded in obtaining possession of these without paying any deposit he disappeared with them, and immediately obtained a fresh set from another practitioner. Within a very few weeks he had secured four sets that Mr. Woodhouse had heard of, and he might possibly have got others. Fortunately he was made acquainted with the gentleman's (?) real character just in time to prevent his parting with his work. The fellow was about fifty years of age, of Hebrew physiognomy, had dark hair, heavy moustache, and large eyes; and when he visited Mr. Woodhouse he was dressed in a blue serge suite and rather untidy linen. As he had obtained nothing from Mr. Woodhouse, that gentleman had no excuse for prosecuting him, but he hoped that those who had been victimised would unite to endeavour to get him punished.

Dr. WALKER said that about seven years ago a number of Dentists were defrauded in exactly the same way by the same man. They did unite with the view of prosecuting him, but on consulting a lawyer were informed that as the man had given his correct name and address no "false pretence" could be asserted, and their only remedy was to bring a civil action against him for debt; this would, of course, have been perfectly useless, so the matter was dropped. Dr. Walker could not encourage his friends to look for any better success now. All that could be done was to warn members of the profession to be on their guard.

Mr. IBBETSON said the thanks of the profession were due to Mr. Braine to whom the swindler was indebted for the check which had been put on his operations. Mr. Braine had taken a great deal of trouble both in ferretting out the man's proceedings and in warning members of the profession against him.

Casts of the man's mouth, lent by Messrs. Ash, were handed round for inspection.

The meeting then terminated with the usual vote of thanks.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ORDINARY MEETING, OCTOBER 13TH, 1879.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE PRESIDENT made a few remarks on the fact of its being the commencement of a new session.

The minutes of the preceding meeting (held on May 12th) were read and confirmed.

Messrs. Amooore, U. A. C. Harris, and Matthews were balloted for, and unanimously elected members of the Society.

Messrs. Mason, Alex. Matthews, H. J. Thornton, and Turner were proposed for membership.

The following casual communications were brought forward.

By Mr. ACKERY, L.D.S. Eng. (Vice-President of the Society), "Notes of a Case of Severe Bleeding from the Gum after the Removal of a Tooth," the patient had to be admitted into the Middlesex Hospital, where the hæmorrhage was with difficulty arrested by local applications; constitutional remedies, astringents, &c., appeared to have but little effect.

The PRESIDENT mentioned a somewhat similar case.

Mr. PEDLEY referred to one admitted into Guy's Hospital which ended fatally.

By Mr. CURNOCK, an abnormally placed upper molar, pronounced by the President to be a supernumerary, simulating a wisdom tooth, and bearing a "submerged enamel cusp;" also an upper bicuspid with widely divergent roots.

By Mr. M. DAVIS, the model of the upper jaw of a man who had lost a part of his hard palate from necrosis following on an injury, and had by filling the gap with a home-made obturator made of a ball of calico, produced such extensive absorption that the whole of the hard palate, part of the vomer, and the internal alveolar plate at length disappeared. The patient had increased the size of his "obturators" as the hole increased in dimensions.

By Mr. ROBINSON, model showing "fibroid" tumour in the centre of the hard palate.

Mr. PRICE asked a question relative to the award of last year's prize, which was answered by the Secretary.

Mr. C. ROBBINS then read a paper entitled "Notes on Dental Mechanics."*

In the discussion which followed the President and Messrs.

* See page 696.

Read, Robinson, Cotterell, Pedley, and W. Matthews took part.

Mr. ROBBINS having replied to the questions put to him, a hearty vote of thanks was accorded to him for his able and interesting paper.

Miscellanea.

AUT CÆSAR AUT NULLUS.

IN the present day, and in the face of certain facts and arguments, it becomes highly necessary that some true, practical definitions should be given of what really constitutes a Surgeon-Dentist, and what constitutes a chemist. It is said that a Dentist is *not* a chemist, but a chemist is a Dentist; yet logically if a chemist is a Dentist, then it follows that a Dentist is a chemist. This being the case let us endeavour to define what is a Dentist and what a chemist.

First, what is a Dentist, or, in other words, a Surgeon-Dentist? Now, no word so tersely or truly fits the need as the compound word Surgeon-Dentist, that is, as far as words can go, for it does not imply a surgeon or a Dentist, but Surgeon-Dentist. Again, as the Lord Chief Justice put it in a celebrated Dental trial, it does not mean a surgeon and a Dentist, that is, the two *separately*, but what it reads, Surgeon-Dentist. We find that, as a rule, the public is practical, thus often and often makes use of the single word Dentist. Now, a man may be a Dentist, but not a surgeon, as he may be a surgeon and not a Dentist; therefore, after all, the truest and best word is the old compound word Surgeon-Dentist, as expressing what it really means, and thus neatly combining the two branches of the Dental profession, surgical and mechanical Dentistry. But a man to be a true Surgeon-Dentist must be quite capable of himself in doing whatsoever he may be called upon to do, either surgically or mechanically. For instance, he must be quite capable of extracting, filling, scaling, and regulating natural teeth, and capable of surgically and medically treating the mouth; he must be also quite capable of fitting in and making artificial teeth, false palates, regulation plates, &c., in fact, quite capable of doing anything and everything appertaining to his profession; such a one is a *bonâ fide* Surgeon-Dentist, not otherwise.

Again, the mere fact of not having a mechanical laboratory or appliances for constructing artificial teeth &c., or not

having the time, does not hold good, for he *must* be capable of doing all mentioned or he is not a *bonâ fide* Surgeon-Dentist. Thus, a man who merely deftly extracts and fills, nothing more, and who cannot make artificial teeth, &c., but hands such over to the skill of others who can, is no more a Surgeon-Dentist than a surgeon is. Now, the only thing that can justify a man from not doing his own mechanical cases, is when his time is so taken up with patients in hand that he must employ extra skill or lose patients, he in the meanwhile being quite capable of doing the cases. But that is quite a different thing from getting others to do what he himself cannot do, or assuming skill which he does not possess. In short, the man who can deftly extract or fill teeth, and surgically treat the mouth, yet cannot execute of himself mechanical Dentistry, is not a Surgeon-Dentist at all, but simply a surgeon, and that of a very limited order or form of surgery, in fact, neither a surgeon or Surgeon-Dentist, but a species of surgical Dental nondescript. Thus, the fact of Dentists themselves not being capable of executing mechanical Dentistry does not in the least alter the true definition of the compound word Surgeon-Dentist.

It may be argued that medical men do not make or construct artificial legs, arms, eyes, and other surgical appliances, as trusses &c., yet are none the less medical men. True. But medical men cease to act as medical men and surgeons as soon as the operation is over. Also, the man who constructs surgical appliances needs not the surgeon's aid or skill, while the patient can use them without the aid of either; but it is not so with artificial teeth, for the Dentist must see to them from first to last. Again, there is not that degree of skill required on the part of the maker of surgical appliances, or that delicacy and fear on the part of patients, as there is with artificial teeth. A patient must show his wooden leg, &c., but nothing will induce him to show false teeth. What is more, it would never *pay* medical men and surgeons to make whatever they may need, as so very few are wanted; in fact, the difference is great in every sense of the word between all surgical appliances and artificial teeth. Then, a surgeon need not know how to construct his appliances, but a Dentist must know how to construct artificial teeth, &c., for more obvious reasons than one. Now, no dentist can make and fit in a set of artificial teeth so well as the one who can make them himself, and who has the mouth and jaws under his eye, and works to them. The truth is, there is as much difference between surgical appliances and artificial teeth as there is between the making of a walking stick and a lever watch. On the other hand, if a Surgeon-Dentist were called

upon to cut away the best part of the human jaw, he would be at once infringing on the rights of a surgeon; thus, a surgeon ought to be a surgeon, while a Dentist ought to be a Dentist. Also, in the past as well as in the future, a Dentist is he who exclusively follows Dentistry and lives by it.

It may be as well to state, to show the clear definition between a surgeon, a chemist, and a *bonâ fide* Dentist, that if either of the two first named told a patient, or handed him or her over to a truss maker, &c., it would not matter in the least, and it is often done; but what would be the result to a Dentist, if he handed his patient over to some "mechanical men," as they are termed, to supply the artificial teeth? why, the loss of his practice! A surgeon could say (and then get *his commission*) to a patient "Go to Mr. Propup for your wooden leg." But could a Dentist do so by his patient? No! And for the simple reason Dentistry has become a special and peculiar calling, perfectly separate from medicine and pharmacy; therefore, neither a surgeon, or, in fact, any medical man, or chemist, is a Surgeon-Dentist.

Having thus exhausted the meaning and the definition of the word Surgeon-Dentist, let us endeavour to define what a *bonâ fide* chemist is.

Now, it is somewhat ungracious to define the ordinary chemist, for the simple reason that he is a kind of Jack-of-all-trades. Also, nothing comes amiss to him, and he acts many parts. For instance, he acts the physician, surgeon, Surgeon-Dentist, veterinary surgeon, pharmacist, and ordinary trades, all within every twenty-four hours. Thus, taking this medical, surgical, Dental, veterinary surgical, pharmaceutical, ordinary trader, harlequin in his own ordinary calling, or assumed one, for it is assumed, viz. chemist, and it stands confessed a false one. For he is no chemist in the true abstract scientific sense of that word; what he actually is is a pharmacist. But, how many use this truer title? Not one scarcely in every hundred but take up with the scientific one of chemist. Now, a pharmacist is one who prepares or compounds medicine, but a chemist is one versed in chemistry, and chemistry is not pharmacy, but the science which demonstrates the natures and properties of all bodies. So, between a chemist and a pharmacist there is a vast difference, yet, as stated in lieu of taking the truer title pharmacist, or even pharmaceutical chemist, he oftener than otherwise goes in for chemist. And this, also, in the face of the abstract fact that not a single drug or chemical does he make, discover, or know how to make. Now this is the case with the far greater majority of so-called chemists; thus, in the very outset of his calling, he is a charlatan. But a chemist, a true *bonâ*

fide chemist, is, by the very profound nature of his calling, a scientific man, none more so, yet surely this cannot be said of most of ordinary chemists. For instance, only fancy *the* chemist while engaged in the profound depths of his mysteries stopping to sell—well, a comb and brush, a bath sponge, or a cake of soap to wash fleas from dogs. What a sublimity of profound research and chemical knowledge does not that act convey, and yet the man calls himself a chemist. There is but one step between the sublime and the ridiculous, and it is decidedly reached in the above act. What's in a name? well, from the ordinary chemist's point of view, everything, for, as stated, he does and dares anything and everything. All this is an indictment grave enough against the ordinary chemist, but when he so defiantly assumes other callings and titles, then the sum of his sins is great indeed, and amounts to a rank swindle. Take, for instance, the assumption of Dentistry by over two thousand odd chemists, what do they know, or have experienced of it? Literally nothing. Yet have coolly assumed the title as if they did, even unto registering. It is also on the card that pharmacists—beg pardon, chemists—intend to register as veterinary surgeons as soon as ever the veterinary act comes to pass. Register! why, the majority would register as monthly nurses if need be. There is one little gleam of honesty in the fact that the better class of men, more so those who *are* pharmaceutical chemists, have not, as a rule, registered as Dentists under the late Dentists Act.

Now, the title of pharmaceutical chemist implies that the holder of the title is not a chemist in the true abstract scientific sense of the word, but follows pharmacy, a branch of chemistry. That is just, and as it should be, for the word pharmaceutical qualifies the *branch* of what he follows, viz. chemistry. But that is vastly different from the title chemist. Let us take another example of the same thing. For instance, if a man wrote or had painted over his door “engineer,” it would mean and distinctly imply the principle, that is, that he was quite capable of doing anything and everything in the art of engineering, while all the time he only means a gasfitter, or plumber, or sewing-machine maker. But, if he puts gas *engineer*, while it would look pompous, the pomposity would be materially qualified by the simple word gas before it. So, with the word pharmaceutical, for it qualifies the chemistry of which he, the follower, is following. But as we often find that in all highly civilised societies great principles generate special and distinct callings, so it is somewhat necessary to give those callings distinctive names. This is the case with that mighty profound scientific principle

termed chemistry, the true follower of which is *the chemist*. But, as this has also generated pharmacy, so we get the pharmacist or pharmaceutical chemist. A title more honest, true, and to the purpose than that of chemist. So, if chemists, as called, would only take up with the title pharmacists, or even pharmaceutical chemists, they would be more honest to themselves and to the profound mighty principle chemistry. Now, what is more, if we practically divest the so-called ordinary chemist's calling of all nonsense and sentiment, what does it amount to? Why, to a trade, nothing more and nothing less!. And so it will remain until the true pharmacist ceases to sell the host of trade commodities which have no affinity to his calling or profession. In fact, assuming that he is a true pharmacist, still, selling, as he does, such a miscellaneous lot of trade sundries, he brings himself to the level of a pharmaceutical trader, thus making it rather a fine stretch of imagination to term him a professional man.

It may be stated in self defence that if the ordinary chemist did as here stated he could not live. That may or may not be true, still call not yourself what you are not, but what you are, viz. pharmacists, not chemists. And what is more still, follow that calling, and stick to it, and not assume those of which you can have no knowledge or experience, if you do you are rank swindlers. There is no use in defining a physician or even a surgeon, but this may be truly written, a physician is not a surgeon, a surgeon is not a Surgeon-Dentist, a surgeon or Surgeon-Dentist is not a veterinary surgeon, a veterinary surgeon is not a chemist, nor a chemist either of those named, a chemist is not a pharmacist, a pharmacist is not a trader. Yet the ordinary chemist is all those named in one day, being Cæsar aut nullus with a vengeance. Yet all should be Cæsar not nullus in their own respective callings.—GEORGE WARD.

DENTAL HOSPITAL OF LONDON, LEICESTER SQUARE.

THE Annual Dinner of the past and present Students of the Dental Hospital of London will be held on Friday, November the 21st, at St. James's Hall, Regent Street, Thomas Underwood, Esq., in the chair. Dinner at 6.30. Tickets, 7s. 6d. each, exclusive of wine.

As the proceedings this year will be under the direction of the hospital staff, it has been considered unnecessary to have special stewards, and this opportunity is taken of thanking those gentlemen who kindly promised their names for that purpose.

In order that perfect arrangements may be made, it is earnestly requested that gentlemen who can be present will send in their names to the Dean, stating also if it is their intention to bring friends.

T. F. KEN UNDERWOOD, *Dean*.

THE DENTAL HOSPITAL OF DUBLIN, BERESFORD PLACE.

A MEETING of the staff of the above hospital was held on Tuesday, Nov. 4th, E. D. Mapother, Esq., M.D., in the chair.

Mr. O'Duffy informed the meeting that, as he was about to commence practice in London, he was reluctantly obliged to resign his position in connection with the hospital.

The following resolution was then passed unanimously:—
“That the marked thanks of the staff of the Dental Hospital of Dublin are hereby tendered to Mr. O'Duffy, its honorary secretary, for his zealous and indefatigable services, which were instrumental in founding and maintaining an institution of such importance to the suffering poor of this city.”

Mr. O'Duffy having expressed his acknowledgments, H. G. Sherlock, Esq., F.R.C.S.I., was elected in his stead.

The Hon. Treasurer announced that as the rent of the hospital was overdue, and as the funds in hands would not permit payment in full, he would, if authorised, advance the amount required himself, which offer was thankfully accepted.

The Registrar reported that during the past five months over 1800 patients were admitted and treated in the hospital.

The meeting then adjourned.—*Saunders's Irish Daily News*.

ODONTO-CHIRURGICAL SOCIETY OF SCOTLAND.

THE first meeting of the session was held in the Dental Hospital, 30, Chambers Street, Edinburgh, on the evening of Thursday, the 13th inst., at half-past seven o'clock. W. Campbell, Esq., L.D.S., President, in the chair.

The following gentleman was proposed for membership by Mr. Brownlie, L.D.S., seconded by Mr. D. Hepburn, L.D.S., viz. Mr. J. Crooks Morison, L.D.S. Eng., Glasgow.

A discussion was then held on Dr. Williamson's paper on “Retarded Eruption,” read at the last meeting.

Dr. Richmond's spring mallet, and Johnston Brothers' new instruments, were, through the favour of S. J. Hutchinson, Esq., M.R.C.S., L.D.S. London, exhibited, with a short description.

Members inclined to favour the Society with papers.

during this session will oblige by communicating with the Secretary, Andrew Wilson.

MR. G. W. WATSON, Curator of the Odonto-Chirurgical Society's Museum, begs to acknowledge with thanks a donation of models of interesting cases of irregularity, syphilitic ulceration, &c.; also several pathological specimens of teeth from Mr. F. Richardson, L.D.S.I., Derby. Likewise, through the same gentleman, a few specimens of abnormal teeth from Mr. Bonner, of Derby.

DENTAL HOSPITAL OF GLASGOW.

WE learn from our Scotch correspondent that the Dental Hospital of Glasgow was opened to the public for the first time on November 10th, and that from the number of patients who presented themselves it is evident that the students will have more than sufficient scope for practice. The winter session is now commencing and the number of students attending the first lecture of the course on Dental Mechanics, on Thursday last, gives promise that the success of the school last session will be fully maintained.

AMERICAN DENTAL ASSOCIATION.

Resolutions passed at the Meeting held August 6th, 1879.

1. Resolved, "Hereafter no Dental college be entitled to representation in the Association that does not require a good English education as a preliminary qualification for its matriculants, to be ascertained by examination."

2. Resolved, "Colleges shall hereafter grant no diplomas except to those who attend at least two full courses of lectures, excepting that practitioners of Dentistry who present satisfactory evidence of having entered upon practice prior to July 1st, 1875, and having continuously followed the same from that date, shall, until July 1st, 1885, be entitled to present themselves for examination for the Dental degree after attending one course of lectures in a duly recognised Dental college."

3. Resolved, "No Dental college shall be eligible to representation in this Association that does not in its next annual announcement give notice of its adoption of this limit to conferring of degrees."

MR. ROBERT WALLER, of Cairo, recently appointed Dentist to H.H. the Khedive of Egypt, has been raised to the dignity of Bey.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our
Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—I quite agree with your correspondent, W. F. Brindley, in thinking that sub-committees should be appointed in all large towns for the purpose of getting information, and pointing out to the Registrar who were not *bonâ fide* Dentists before July 22nd, 1878, in their town and neighbourhood, and thus were not entitled to be on the Register. Although Sir John Lubbock did not wish the Dental Act to interfere with existing rights, yet he did not intend that all persons who extracted teeth only should be made Dental Surgeons or Surgeon-Dentists, or become *bonâ fide* Dentists at once; but I think most of the 2049 pharmacists have registered for fear of being deprived of their right to extract teeth as they had been accustomed to do for many years previously. However, I should be very glad of any assistance when required, as it would be impossible as well as inexpedient for one person only to take the responsibility of so unpleasant a task. Had such a council been organised before the registration it would have been far better, and prevented all the trouble that is now required.

I am, &c.,

HENRY MERRYWEATHER, M.D., M.R.C.S.E., and
Fellow Med. Soc. Lond.

17, Howard Street, Sheffield; Oct. 22nd, 1879.

To the Editor of the 'British Journal of Dental Science.'

Sir,—Was it the intention of the promoters of the Dental Act, when they allowed the words "In practice with pharmacy" to be inserted in the Bill, that every chemist who had extracted teeth should be allowed to register himself as *bonâ fide* practising Dentistry? If so, the Dental Act leaves both the profession and the public in a worse condition than it found it, as it foists upon the public a large number of chemists professing Dentistry, and acknowledges, according to the Dental Register, their right to practise, when, in fact, many of these know little or nothing of the simplest operations in either the mechanical or surgical part of the profession.

What course the British Dental Association intend to take in reference to men who have falsely registered remains to be seen, but one cannot help but be astonished at the large

number of chemists who have claimed registration. Whether they can substantiate their claims time will show.

I am, &c.,

ODONTO.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND
REGISTERED DENTISTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Now that the R.C.S. of Ireland, Edinburgh, and Glasgow have thrown open their doors for registered Dentists in practice before 1879 for examination, *sine curriculum*, for the L.D.S., would it not be a generous and just act for the R.C.S.E to do the same. I am sure there are hundreds of thoroughly qualified (registered) Dental practitioners who are an honour to the profession that would be glad to present themselves for examination for the L.D.S., providing the "Board" would accept a thoroughly practical and theoretical knowledge, minus the usual lectures and irrelevant questions. I for one am very anxious to obtain the L.D.S., providing I be examined as a thoroughly practical mechanical and operative Dentist, taking 'Harris's Principles and Practice of Dental Surgery' as a guide. Being duly registered I require nothing more, being already well established; still my ambition is to improve my professional knowledge, and, if granted a modified examination, I would study and prepare myself for examination. Unless some concession is made it cannot be expected that old and well-established practitioners can give up their practice and stand the chance of not passing. I shall be quite willing to sacrifice a few hundred pounds in leaving my practice and paying the expenses of a voyage, &c., &c. I enclose my card.

I am, &c.,

A COLONIAL DENTIST.

To Correspondents.

ANSWERS TO CORRESPONDENTS.

DENS.—You should apply for information to the Secretaries of the Institutions you name.

Communications received from J. S. Harrison (Rotherham), "A Colonial Dentist," W. C. Davis, Dr. Merryweather, T. F. Ken Underwood, Sec. of Students' Soc., "Odonto," "Dens.," V. C. Mallan, J. Henry Redman, Alfred Coleman, J. Tomes, J. S. Turner, Appleby King, Charles W. Dunn.

British Journal of Dental Science.

No. 285. LONDON, DECEMBER 1, 1879. VOL. XXII.

Dental Surgery and Medicine.

A FEW REMARKS ON TARTAR AND ITS REMOVAL.

By J. HENRY REDMAN, D.D.S., Brighton.

IT is needless for me to describe the composition of Salivary Calculus, as that is so fully done in all text-books of Dental Science, but in none is sufficient importance attached to its removal. No lesion to which the teeth are liable, with the exception of caries, causes the loss of so many, as this concretion, which, in the first place, is deposited at the necks of the teeth, just under the free margin of the gum, on the lingual surface of the inferior incisors and the buccal surface of the superior molars; the gums are forced back by the accumulation, forming a lodgment for further depositions; it collects most rapidly at the part nearest the gum; this no doubt gave rise to the idea entertained at one time, that the tartar was produced by the mucus follicles; but it has been proved beyond dispute that it is deposited from the saliva. At first it is very soft owing to the presence of a large proportion of animal matter, viz.—mucus, &c., but after it has remained on the teeth for some time, it becomes very hard and brittle, its character being altered by a preponderance of calcareous salts.

The constant deposition of tartar causes absorption of the gums and afterwards of the alveolar processes, until the teeth become so loose from the loss of their proper support as to be such an annoyance that their extraction is demanded. Its presence, even in small quantities, acts as a perpetual irritant, exciting inflammation of the gums, which cannot be successfully treated until the cause is thoroughly removed.

The state of the health has a great influence on the accumulation of tartar, it being very abundantly deposited in those of a rheumatic or gouty tendency. Diet and modes of life, so far as they affect digestion and assimilation, will influence the deposit, as will also the administration of

certain medicines. In limestone districts where the water becomes impregnated with lime, tartar will, as a rule, be deposited much more rapidly and in larger quantities than would be the case where the water was soft and free from lime salts.

The operation for the removal of tartar is one of the most important in conservative Dentistry, although it is considered by a great many of but secondary importance, and by others of such little consequence as to be entirely beneath their notice ; I have even heard it asserted by men, who, from the training they have received, should know better, that because it fills up any cavities there may be in the teeth, it tends to preserve them, and that its removal, instead of doing good, is a positive evil ; there could not be a more erroneous idea. Although in those mouths where the tartar is most freely deposited, decay generally progresses at a very slow rate, yet the loss of the teeth is inevitable unless it is removed. The operation of scaling is generally very hurriedly and imperfectly performed, but to be successful, it ought to be done in a most thorough manner, not only going over every portion of the tooth exposed, but passing the instrument below the margin of the gum to remove every particle, as unless this is done a nucleus is left around which future deposits can take place. In cases where large accumulations have to be removed, it is necessary to give a second appointment; or even more, as the bleeding arising from the operation (although every care may have been taken to prevent unnecessary wounding of the gum) will obstruct the view, making it almost impossible to successfully complete the scaling in one sitting. In these cases the gum is generally pouched, each pocket should be cut vertically with a sharp lancet to cause contraction, as if this is not done a lodgment is left for particles of food, &c., over which the tartar would soon accumulate again, making our labour nugatory. If the pouching is but slight a little strong astringent or slight caustic inserted between the gum and tooth will accomplish the desired object. For this purpose I have found nothing answer better than chloride of zinc solution.

The instruments used are often of the most rude description, totally unfit for the delicate work they have to perform ; those I find most useful are Dr. Baylis's set of scalers, Dr. Howe's set of fine scalers, and Nos. 3, 4, 5, and 6 of Dr. F. Abbot's set. For the removal of tartar and for freshening the edges of the alveolar process in cases of pyorrhœa alveolaris, Dr. Rigg's instruments are simply invaluable. After every particle of tartar has been removed, the teeth should be

polished with precipitated chalk on a small circular brush, rotated by the Dental engine. I object most strenuously to the use of levigated pumice or powders of a like character for this purpose, as they scratch the enamel, leaving it rough instead of polished, from which cause the teeth readily discolour and are with difficulty kept clean. After the teeth have been scaled they are often very sensitive at the necks; if kept well polished this will pass off in the course of a few days; much relief, however, may be obtained by the use of a mouth wash composed of a few drops of eau de Cologne and tannin in water, two or three times a day.

By the vigorous use of the tooth-brush at least night and morning and the daily passing of thread or China ribbon between all the teeth, they may be kept entirely free from the accumulation of tartar. A mechanical polishing powder is all that is required as a dentifrice, and for this purpose nothing can be better than precipitated chalk. If medicaments are required for the treatment of diseased conditions of the gums they should be given in the form of mouth washes, I think their employment in the form of powder is not only useless but in some cases detrimental.

Great care should be taken to see that all instruments used are properly cleansed and disinfected, by first washing and then dipping in a solution of carbolic acid or permanganate of potash; as in no operation that we are called upon to perform is there more danger of communicating disease from one patient to another than in this that we have had under consideration.

Mechanical Dentistry.

NOTES ON DENTAL MECHANICS.

A paper read before the Students' Society of the Dental Hospital of London, October 13th, 1879.

By C. ROBBINS, Esq.

(Continued from p. 700.)

HAVING, then, our lead counter die and zinc models (three is a very useful number, though sometimes two will do) we may notice briefly a few matters in connection with "swaging and striking up." Cut out patterns of plate in lead-foil (this being preferable to paper as it accommodates itself to

the little ins and outs of the model) allowing a little in places likely to slip. I have found it useful in lowers where the centrals are standing, to allow a clip to come over those in front, which is easily sawn off when the plate is nearly down. Care should be taken in smoothing out the lead pattern or it will spread, and thus give a false result when cutting the gold. Gold-plate work is one of the most difficult, as well as the most artistic branches of mechanical Dentistry, and only those who have experienced vexation and disappointment arising from a plate that will "ride or spring" after the most careful manipulation can fully understand what we mean by this remark. Mallets of Boxwood or horn are the best to start a plate with, and not pliers; working well in the palate first, then from the palate gradually outwards before attempting to put in the die; the plate should then be annealed and covered over with a piece of rag placed in the die and struck at first somewhat gently. Care should be taken to get a straight blow with a hammer varying from eight to ten pounds in weight on a wooden block standing about two feet high. An india-rubber pad at the bottom of this is useful to prevent noise. In deep suction uppers it is well to cut from three to five nicks in the plate before starting. This will prevent puckering at the median line and tuberosities. For uppers I prefer No. 7 strengthened when necessary with No. 4 or 5. Lower gold bars not quite so strong.

There seems to be a difference of opinion about chasing up the lingual aspect of the tooth; but as each case brings with it its own peculiarities, no special rule can be laid down. F. H. Balkwill, who has written so ably on Dental mechanics in the 'British Journal of Dental Science,' seems to think that only in exceptional cases is this justifiable. He says, "It makes very pretty looking work to allow the plate to run some way up the natural incisors if these be standing; the gold being neatly chased around them; but I cannot find any other reason in its favour, and there are several against it." As this is rather an important point I should like the opinion of the gentlemen present to-night personally. I am in favour of chasing, as often this will steady a plate and reduce the need for so much band power.

Success in plate work, as in everything else, depends upon the attention given to minute details; and whenever we get an obstinate plate instead of using the hammer too freely (and it is a fact that many plates are overstruck) by introducing a little brain power, the difficulty may more easily be overcome.

I must not trespass on your time by considering the

different kinds of bands employed, but would only say do with as few as is consistent with safety and comfort. Having now to mount our supposed plate we must make our choice of bites or keys. I like the old plain block. In pouring mix rather thick, and add silver sand, cover over with tissue paper, and do not trim till nearly set. Next comes the question what teeth shall we mount the plate with. This will depend upon many circumstances, as to depth of bite, or depth of pocket, of the patient. Where it is possible I think tube teeth are the best, they take longer, but they last longer, and approach more nearly than any others the natural teeth in mastication. Gold and vulcanite may be worked in a variety of ways, the following plan is one of the best. Strike up a plate of thick gold gauze to model, then build up as for ordinary vulcanite set, try in, and flask in the usual way, but in packing place one thickness of rubber on the model, then warm and press well into place the perforated gold plate, no catches are necessary because of the perforations being countersunk on one side. In this way we may get useful plates combining strength, fit, and lightness—very useful in suction cases—and if the bite is close in front, flat teeth may be soldered to the plate. One of the rules we should never depart from is this: study a little artistic irregularity, for what can be more painful to an educated eye than to see teeth built up like so many pegs in a row. Another is this: always try dentures in the mouth before completing. It is well in the case of vulcanite uppers to bend into shape a piece of sheet zinc or pewter to give strength during this trial. Also in the case of full sets try in with swivels and springs. When the gums are too tender to bear either gold or vulcanite thin platinum gauze may be fitted to give attachment to Trueman's useful gutta percha. I find no more difficulty in attaching this to vulcanite than to gold, whereas in the latter we solder it direct to the plate; in the former it may be cut into shape and a few slips of gold soldered on to act as catches, then in flasking be careful to mix the plaster thin, in order that it may run into every square, and so keep out the rubber in packing and baking. A difficulty is experienced with some aged patients in keeping the lower steady; in such cases stronger springs should be tried, and if they fail load with platinum.

As regulation plates form an important branch of Dental mechanics, a word may not be out of place here; whatever be the means employed let the pressure be uniform and constant on the tooth you wish to move. Some will tell us that it is useless to attempt to regulate after say sixteen or seventeen years of age with any satisfaction. I should not

hesitate to attempt it at the age of twenty-five or even more provided one has the co-operation of the patient. For most cases I prefer whalebone or Turpin's black rubber, pressing out with hickory or compressed wood, and bringing in an outstanding offender by elastic bands—where one can see the patient often, in order to avoid the possibility of the band slipping up and so injuring the periosteum—or by means of a gold arm of half round wire fitted so as to act as a constant spring. Slow torsion may be brought about by applying pressure at the same time upon the mesial and distal surfaces in the case of a tooth lying crosswise in the gum; a better plan than actual torsion, for who can tell the shape of the apex of the root?

With respect to pivoting, I have seen nothing so complete as the plan adopted by our demonstrator, Mr. Claud Rogers, the details of which are known to most of the second year's men. A brief description, however, may be useful to those fellow students who have just entered. Having treated the root, and being satisfied as to its fitness, open up the canal with a broach to the size required, file the root carefully, giving a somewhat arched form, next select a tooth and fit it down to the stump, now adjust the platinum wire so that it comes down between the pins of the flat tooth, back the tooth with platinum foil, also fit foil to root, pressing it into shape with a burnisher, and secure the whole with wax or shellac by means of a heated instrument, and when firm withdraw. Embed it all in plaster, warm up slowly, and flush pure gold over every part of the platinum foil, and in filing up leave it a little convex. Now see if it is all right, coat the pin with a solution of gutta percha in chloroform, and press well home, using a toothbrush handle notched to fit the tooth. Of course this all takes time, which is justified by the result. Take care to select a tooth a little lighter than necessary, as it gets darker by passing through the fire. Should it be impossible for the patient to give sufficient time, an impression may be obtained by means of a pin with a moveable platform; around this build up a little Godiva and insert. We not only get the accurate position for the pin, but an impression of the neighbouring teeth; before casting a small plaster model oil the pin, so that when set it may be easily withdrawn, and a tooth fitted in the ordinary way.

Sometimes it falls to the lot of a Dental surgeon to treat mechanically cleft palate, involving perhaps the hard or soft palate separately, or both. Hard and soft palate perforations are sometimes the result of syphilis.

No mechanical case should be put in when ulceration

going on, but wait till the active ulceration has subsided; and in order to facilitate healing, proper applications may be used. Whilst looking over an old work on artificial teeth, by Dr. Koecker, I found some remarkable looking woodcuts of very complicated arrangement to treat by mechanical means the troublesome defects.

But sometimes extremes meet, for the same day a paper by Dr. Gunning, of New York, attracted my attention, entitled "Hard Rubber Appliances for Congenital Cleft Palate," the simplicity of which impressed me forcibly. He says: "To apply this plate, a simple impression of the hard palate and teeth, as is usually taken for the setting of artificial teeth, is quite sufficient, the extension into the soft palate being made by fitting the gutta percha pattern to the parts without subjecting the patient to the annoyance of obtaining a plaster impression of these sensitive and mobile organs. This palate is consequently so simple that any accomplished Dentist can apply it, and the patient is therefore comparatively independent."

Having a case given me at this hospital to treat, very similar to the one he describes, I made a hard plate of black rubber, which keeps up nicely by suction; it is extended so as nearly to touch the superior constrictor muscle behind, and the divided soft palate is left to act free in deglutition. As to its success, it is not possible to speak at present with any certainty, but I intend to watch it very carefully, and should it fail, shall feel tempted to try another plan, suggested by Mr. Rogers, which is as follows:—Obtain as perfect an impression as possible, then make a vulcanite plate for hard palate, attaching to this a small plate of gold the size only of the opening, on the upper part of which is soldered gauze and catches to give a hold for Truman's gutta percha. This is to be built up and adjusted to the cavity, perforate the posterior border of the gold plate, and stitch to this a soft velum.

I have trespassed too much on your time already, or should like to have said something about the beautiful work known as continuous gum. The natural appearance of the celluloid base must have been admired by us all, but up to the present reports differ as to its real worth. I cannot help thinking that it will play an important part in the future of mechanical Dentistry. The principal charge against it is its liability to warp after a time. Should this difficulty be overcome it will prove a grand acquisition to Dental surgery. If any member of this Society has had experience in this material, I think it possible to speak for all and say we shall be very thankful to hear about it.

In conclusion, whatever may be the future prospects of Dental surgery, we may rely on this fact, that the more a man's mechanical skill is cultivated so much the better Dental surgeon will he become. It is only feasible to suppose that most of us look forward to the time when it will not be absolutely necessary to do so much at the bench; but I trust the time may never come when we shall consider this an inferior and unimportant branch of our profession. Though we may not have to do all the work ourselves, it behoves us to keep pace with the times in order to be able to superintend, plan, and instruct, combining professional education and experience with mechanical skill.

Gentlemen, I thank you for your kind attention. I own my inability to do the subject that justice its importance demands, and trust that these imperfect notes may bring about a free interchange of thought and experience this evening; then they will have fulfilled their purpose.

DENTAL ALLOY.

THE difficulty experienced by your correspondent, "An Old File," in the preparation of good sheet alloy from "scraps," I would take the liberty of suggesting, is probably due to an attempt at converting into "platinum alloy" what is usually sold under the name of "platinised alloy," which consists of a silver alloy, having a tolerably heavy coating only of platinum.

This latter, as is well known, is a most refractory metal, melting only by the oxy-hydrogen blowpipe, and an alloy of platinum and silver is very difficult to produce, in consequence of the former metal "parting" when the two are fused together, owing to its greater specific gravity. This difficulty may, with most alloys, be largely obviated by keeping the metal constantly stirred up to the time of pouring, and, if possible, during that operation, combined also with rapid cooling.

Were the article usually supplied to the Dental profession a true alloy of silver and platinum, cuttings and scraps might be reduced to a convenient form for future use with comparative facility, as alloys generally may be worked at a lower temperature than their component metals; its composition, however, being, as stated before, the difficulty of melting it and forming a perfectly homogeneous mass with

ordinary means becomes extremely difficult, the result too often being the production of a piece of metal having portions of its substance of unequal tenacity, hence cracks and other troubles when reducing it to the form of plate.—J. T. CRAIG.

In your last month's number "Old File" asks some of your readers to tell him why the scraps of Dental alloy when melted will not run out tough, malleable, and suitable for Dental plates.

I am surprised at this emanating from "An Old File;" it is no doubt a fact that the teeth of "An Old File" are less likely to adhere to the scraps, and therefore less damages in acting chemically on the alloy, so that it will split and crack. It is almost an impossibility to obtain good results when some of the teeth of the steel file and other foreign bodies are incorporated with metals. I may say, Young File or New File is a more destructive agent in these difficulties, for his young teeth are more easily broken off, and are very adherent to the scraps. "Old File" will find it best to send his scraps to the refiner, and procure pure platina and pure silver; after melting each separately they should be poured from one crucible to the other while in a state of fusion. The platina must be fused with Fletcher's blow-pipe.—APPLEBY KING.

Worcester.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM OCTOBER 1ST TO OCTOBER 31ST, 1879.

Extractions	{ Children under 14	531
	{ Adults	856
Under Nitrous Oxide		278
Gold Stoppings		83
White Foil ditto		30
Plastic ditto		425
Irregularities of the Teeth treated mechanically		39
Miscellaneous Cases		336
Advice Cases		128

Total..... 2706

JOHN H. McCALL.

Dental House Surgeon.

CASE OF OPERATION FOR CLEFT PALATE.

ILLUSTRATING A NEW METHOD OF PERFORMING OSTEOPLASTY.

By EDWARD WOAKES, M.D.,

Surgeon to the Hospital for Diseases of the Throat, and Aural
Surgeon to the Hospital.

E. B—, a boy aged eight years, came into the hospital, under my care, during August of the present year. He had been operated upon in infancy for harelip by the late Sir W. Fergusson, with very satisfactory results, though the depression of the corresponding nostril—in this case the left—usually remaining under these circumstances when the original defect involves the alveolar ridge and hard palate, was markedly present. Although the alveolar processes had closed, the cleft in the bony palate was complete. It commenced anteriorly by an arrest in the development of the external half of the left intermaxillary bone, the left central incisor being present, while the lateral incisor of this side was absent. From this point there was a clear gap to the vault of the pharynx, exposing the left turbinated bones. The palate plate of the left superior maxillary bone ended abruptly in front, where it unites with the corresponding surface of the intermaxillary bone, which was altogether absent. The process of bone representing the hard palate on this side was reflected upwards, so as to be parallel with, and very near to, the inner wall of the antrum.

On the right side the bony plate of the palate was complete so far as the intermaxillary bone was concerned, but it was deficient in width, and was drawn up to meet the vomer, with which it was continuous. The right upper jaw was altogether much more solidly developed than the left.

Having in view these facts, and especially the delicate constitution of the child—who, notwithstanding a six months' residence in the country, to fortify him for the operation, was still pale and anæmic-looking, and in whom it was to be feared the ordinary operation on the bone would be followed by necrosis,—I devised the following plan of operating with the view of avoiding this contingency :

A very fine saw, made for the purpose, was introduced through the left nostril, and applied to the floor of the meatus to such an extent as partially to divide the palate plate throughout the greater part of its length near its attachment. A pitchfork retractor was then introduced behind its free margin in the mouth, and pulled upon, the sawing being continued until the plate was brought nearly into a horizontal

plane, which was accomplished *without complete severance of the bone*—this being the essential point on which I relied for the prevention of necrosis. The nostril was then packed with lint to keep the bone in its new position, a portion of the long strip used for the purpose being allowed to project from the external meatus to facilitate its subsequent removal. A similar plan was adopted on the right side, the attachment to the vomer being divided with a fine sharp chisel. Owing to the greater firmness of the bony fabric on this side it did not yield to traction so readily as on the left. The edges were then pared, but as the bones did not even now meet in the middle line, a muco-periosteal flap was detached on each side, and the gap closed with silk sutures. No attempt was made to secure the union of the soft palate at this operation, which was postponed to a future occasion in deference to the delicate health of the patient. In ten days he was well, union being complete.

The object of the above procedure—that, viz. of bringing as much as possible of the natural bony palate into the gap without incurring the risk of necrosis—was fairly accomplished by its means, the result giving a firm roof to the mouth so far as the operation extended. Out of seven operations for cleft palate performed during the past year, this is the only one in which the condition of the patient demanded any departure from the ordinary method. As, however, the subjects of the severer degrees of this deformity are often of feeble constitutional power, I have felt justified in recording a method of operating on them by which the risk of necrosis is reduced almost to *nil*, and which secures an equally satisfactory result with that obtained by the ordinary mode of performing osteoplasty, in which such risk is largely run.—*Med. Times and Gaz.*

THE DISUSE OF THE JAWS IN ITS BEARING ON THE PRODUCTION OF DENTAL DECAY.

By J. HENRY REDMAN, D.D.S., Brighton.

By an unfortunate oversight the title of this excellent and interesting paper in our last issue was allowed to appear as "The Disease of the Jaws." We cannot too fully express our regret to Mr. Redman, and, at the same time, thank him for his continued communications.—[ED. B. J. D. S.]

British Journal of Dental Science.

LONDON, DECEMBER 1, 1879.

As the months roll round, the question as to who is to be the new President of the Odontological Society comes into consideration. In former years it used to be an accepted fact that the senior Vice-President of the past should occupy the Presidential Chair of the following year, but various causes have tended to upset this old tradition. First, it was seen with regret that many of our older and wiser heads—those who had founded and long after invigorated the Society—seemed, after passing the Presidential Chair, inclined to drop into a well-earned repose, which though highly conducive to their own comfort, was not thought to be to the interests of the Society; so the idea was conceived of putting them again on the list of Vice-Presidents in such fashion, that each year a former President should be re-elected. This plan had its advantages and disadvantages; in some cases it kept back gentlemen whose position and long years of experience in the profession entitled them to the position of President. As when, for instance, last year, Mr. Woodhouse retired in favour of the re-election of Mr. Edwin Saunders, who has well earned that honour by his many benefactions to the profession, and especially by his unceasing endeavours, against all opposition, to secure for the Dental Hospital of London its present commanding site. Mr. Woodhouse, however, has well served our specialty by his personal maintenance of its professional dignity throughout his career, by the assistance of his purse in all matters where money was needed, and latterly by his diligent attendance on committees, councils, &c. And we cannot but feel that he should be the next elected to the office of President, notwithstanding the claims of Mr. Barrett in the order of alternate

rotation. There can be nothing more unpleasant to a council than to have to discuss the claims to the Presidential Chair, knowing well who, according to established usage, should be the next one or two in succession. To pass them over may seem almost like a slur upon them, and none who have acted as our Presidents deserve even the shadow of such a thing; therefore, we think it behoves the elders of our specialty assembled in council, to look a few years ahead, and so arrange the succession to what must always be a coveted honour, that it shall fall to those whose turn it is, or whose deserts merit it, without giving pain to old Presidents who have served them well and are ready to do so again.

The comparatively new order of succession was only brought about by the retirement of Mr. Vasey in favour of Mr. Tomes—but the change which we are now about to suggest can only be accomplished by the *double* retirement of one gentleman; as we have before pointed out this should not be accepted without some long previous notice and publicity, so that the reason should be well known. Mr. Woodhouse and his friends, whose names are legion, have every right to expect that he should be the next appointed President, seeing that he retired in favour of Mr. Saunders; this would for the year exclude Mr. Barrett, who would then rightly look to be elected for the year 1881.

Mr. Barrett, as a former president, has shown himself eminently fitted for the post, and his re-election to the office would be at any time a boon to the Society. It fell to our lot to serve under him during his year of office, and from our association with him we formed the opinion that he was essentially a *just* man, and therefore we know no one to whom we can more fitly appeal to glance through the past history of our specialty, by the aid of our volumes, and see if there is not one whose claims to the Presidential Chair have been too long ignored, and retirement in whose favour for one year more would still further enhance the lustre of his own second reign—to be followed, we trust, by that of Mr. Thomas Rogers, who would in his own person represent the restored Presidency so well held at former different periods by father and son.

Can our readers doubt for a moment whom we allude to, as the one whose claims to the Presidential Chair have been too long ignored? Is there any one in the profession to whom the following words of Mr. Turner can be more fitly applied than to Samuel Lee Rymer?

“Under the constant pressure of an ever lengthening series of circumstances, each requiring immediate attention, the events of a remote past are liable to be driven out of our recollection and the claims of those to whom we owe debts of gratitude are unintentionally, but none the less fatally forgotten.”

But we forget our readers are mostly young and cannot so well recall his name as we can, as that of one who did so much in years gone by, and has done so much since for the profession.

To state his claims briefly then, we would say that Mr. Rymer was the first, publicly and openly, in September, 1856, to call attention to the necessity for some organisation among Dentists, and his public action had the effect of bringing to light not only his own scheme of a College of Dentists, but the existence of the Odontological Society which but for this antagonism would probably have smouldered on for years afterwards, and although the broad basis of “Dental Reform,” irrespective of colleges or societies, was not then thought of, there is no question that the public action of Mr. Rymer and his colleague, Mr. Alfred Hill, did more to prepare the minds of Dentists for the subsequent establishment of the permissive educational scheme of Mr. Tomes and the more recent introduction and success of the compulsory scheme of “Dental Reform” than anything that had been previously said or done.

We spoke of Mr. Rymer above as one who in years gone by “did so much, and had done so much since,” and we used the expression advisedly. That Mr. Rymer did so much in years gone by we have shown, and we do so the more willingly that we opposed him in what we thought, and still think, was founded on a wrong basis; but what he did he did openly, honestly, and fairly, and what we claim that he has done since, and thus merited the continued and heartfelt thanks of Dentists, is that when he was convinced that unity was better for them than a persistence in what he

in his heart deemed a better plan, he gracefully yielded up the exercise of the great authority and power he undoubtedly had over our provincial brethren, and has ever since loyally co-operated in all endeavours for the public good.

We say, then, that the name of such a man would do honour to the list of Presidents of the Odontological Society, and that in honouring him they will honour themselves, and we trust that prompt action will be taken by the Council and Presidents elect, to ensure, as soon as possible, Mr. Samuel Lee Rymer's election as President of the Odontological Society.

Literary Notices and Selections.

ANGRY DENTISTS.

(From the 'Chemist and Druggist Journal.')

THE ravings of a number of Dentists in the correspondence columns of the 'British Journal of Dental Science' do but little credit to the literary, and even less to their judicial, abilities. The situation they have created is a somewhat amusing one. It was they, not the chemists, who prepared the Act. It was they, not we, who clamoured to be formed into an organised body. But who were to be the members of that body to start with? Had any 500 of them the right to associate themselves, and say, "We, and we alone, are true and genuine Dentists; it shall be penal for any one else so to describe themselves?" There were about 2000 chemists in this country who, to a greater or less extent, practised Dentistry. Were these to be coolly set aside and practically outlawed so far as their performance of Dental operations was concerned? They were not quite likely to submit to such treatment, and Sir John Lubbock when appealed to most readily perceived the justice of their claim. His Bill was consequently altered, so as to give all pharmacists who had practised Dentistry the right of registering. Upwards of 2000 have availed themselves of this right. If they did not register they might extract teeth in future, it is true, but they could not legally charge for so doing. It was cool enough to make a man pay £2 or £5, in order that he might

legitimately continue to practise an art which perhaps he had exercised for twenty or thirty years. It is adding insult to injury when, having paid the fee demanded, he is branded as a thief and a perjurer. If the purchase of his rights gives the chemist all the dignity and glory which attaches to the Dental title, whose fault is that?

To be just, we ought to state that the editor of the Journal we have named has not joined in the foolish outcry, but there is something rather unchivalric in his would-be soothing suggestion that the Investigating Committee of the General Medical Council may strike off the Register as many names as they please, and that there is not much chance of their decision being challenged in a court of law, "as the parties who will be attacked are chiefly people of little note or importance, without either position or money!" This is a rather risky policy to suggest, for in spite of hard times there is money enough left in the trade yet to fight a strong battle in a just cause.

The Secretary of the British Dental Association has favoured us with a copy of counsel's opinion, the points of which concerning us are to the effect, first, that a chemist who has occasionally practised only one branch of the Dental art, extraction for instance, cannot claim to have *bonâ fide* practised Dentistry as required by the Act; and, secondly, that a chemist's assistant who may have registered on the ground that he was "*bonâ fide* engaged in the practice of Dentistry or Dental surgery, in conjunction with the practice of pharmacy," has not a right to retain his position on the Register. Now, counsel's opinion, when it is of the nature, substance, or quality required by the purchaser, is always open to suspicion. It would hardly be rash to assert that an opinion of a precisely opposite tendency could be easily obtained. The position of chemists was clearly explained to Sir John Lubbock, and the modification of his Bill concerning pharmacy was made expressly to meet their case. To deny them now the right of registration would be simply a breach of honour, which the authors of the Act would be, we suppose, the first to protest against. Further, with all respect for Mr. Fitzgerald and his ingeniously constructed opinion, we shall hold on a little longer to the belief we have previously expressed, that a chemist's assistant, if he was "*bonâ fide* engaged in the practice of Dentistry," had a perfect claim to registration, based on his connection with pharmacy, although he may not have been legally either a "pharmaceutical chemist" or a "chemist and druggist," which qualifications are certainly not demanded by the Act.

CHLORAL AS AN ANÆSTHETIC.

ALTHOUGH chloral is accepted as an anæsthetic by nearly general consent, there is far from being a general agreement as to the manner in which sensibility is abolished by its use. M. Arloing, in a paper on the subject recently submitted to the Académie des Sciences, thus states the present state of of opinion on the question.

According to Liebreich, chloral produces anæsthesia by the chloroform it furnishes, by being broken up on contact with the alkalis of the blood. According to Byasson, Lessonde, &c., by the combined action of chloroform and the alkaline formiates which also result from this disintegration. Finally, Demarquay, Gubler, Claude Bernard, Vulpian, &c., are of opinion that chloral acts as chloral, and that its effects have nothing in common with those of chloroform. The three following questions are still unanswered:—1. Does chloral undergo decomposition in the animal economy, or does it not? 2. In the case of an affirmative answer, is this separation the condition necessary to the production of anæsthesia? 3. What are the respective parts appertaining to chloroform and to the alkaline formiates in the phenomena following absorption of chloral?

On these points M. Arloing formulates the following opinions. It is especially in the name of chemistry that the partisans of disintegration have spoken, and M. Arloing has endeavoured, by the help of the physiological reactions of the organism, to find if this separation exists, since those persons who refuse to accept it base their refusal on arguments drawn from the physiological effects of chloral. He chose as a reagent the circulation, a function which undergoes modification under the influence of the slightest causes, and of which it is possible to study the changes, even to the smallest details; besides which, the special effects of chloral, chloroform, and formiate of soda on the circulation being known, he in a manner made the synthesis of chloral in the interior of the vessels, by injecting separately the quantity of chloroform and of alkaline formiate which would be furnished by an anæsthetic dose of chloral, and has registered all its effects, starting from the idea that, if he obtained by the experimental procedure all the modifications of the circulation which characterise the absorption of chloral, he would be in possession of the notion of separation of this body in the blood. M. Arloing notes in passing that, by injecting a solution of formiate of soda into the veins of an ass or a horse already chloroformed, the tracings of arterial

and venous pressure, of the pulse, and of the rate of the flow of the blood in the arteries, gradually assume the characteristics of the tracings of chloralisation. The disturbances of circulation produced by chloral present, then, the result of the modifications which belong to chloroform and the alkaline formiates; and for this reason he believes that the separation of chloral in the blood cannot be doubted. Likewise, if a small dose of chloral be injected into the veins of a dog, which has also received a somewhat large quantity of formiate of soda, two effects of the same tendency are combined, and the disturbances of circulation which belong to strong doses of chloral are obtained at once. M. Arloing is of opinion that disintegration is a phenomenon indispensable to the production of anæsthesia by chloral. This assertion is based on the following fact. It is known that the irritability of the sensitive plant is abolished by the vapours of chloroform. M. Arloing has shown, in a recent note, that the absorption of chloroform by the roots of this plant leads to the same result, whilst the absorption of chloral kills the sensitive plant without modifying its excitability. Why, then, does not the anæsthetic action of chloral, so marked in the animal creation, persevere in a plant which is yet so sensitive to the action of chloroform and ether? M. Arloing believes that the cause of this difference is the fact that, reaction of the tissues of the sensitive plant being acid, chloral does not find in this plant the alkaline condition necessary for its disintegration; otherwise, M. Arloing cannot understand how chloral can lose its properties when the other anæsthetics retain theirs.

M. Arloing is of opinion that the anæsthetic effects of chloral are not due, as M. Byasson believes, to the combined action of nascent chloroform and formic acid, for the experiments which M. Arloing has undertaken, with an alkaline formiate, have convinced him that this salt does not diminish sensibility. He considers that chloralic anæsthesia is produced by chloroform. As to the alkaline formiates which become developed simultaneously, they contribute to the anæsthesia by their vaso-dilator action, by carrying the chloroform more rapidly and in greater abundance to the nerve-centres and the termination of the sensory nerves.

The adversaries of disintegration especially object that the slowness with which it is effected agrees but ill with the sudden appearance of anæsthesia after intravenous injections of chloral, and that the quantity of chloroform which would be derived from an anæsthetic dose of chloral would be incapable of producing deep and prolonged sleep. On reflecting that, in administration by inhalation, a large quantity of chloro-

form is dissipated in the air, whilst that which enters in the vessels is entirely utilised, this objection appears less striking. M. Arloing has also assured himself experimentally that the quantity of chloroform necessary to put an animal to sleep is always less than that which would be yielded by an anæsthetic dose of chloral. Thus, with from five to six *grammes* of highly diluted chloroform, slowly injected into the veins, M. Arloing has thoroughly anæsthetised large solipeds; to obtain this result with chloral, he was obliged to inject from thirty to forty *grammes*. The hydrate of chloral giving, then, 72·2 per cent. of chloroform, the quantity of chloral necessary to anæsthetise a horse would yield from twenty-two to thirty *grammes* of chloroform; that is to say, five times as much as in the free state, it would be necessary to inject to produce anæsthesia. If, also, the large quantity of chloroform which results from the disintegration of an anæsthetic dose of chloral and the necessary slowness of this operation be taken into account, both the almost overwhelming onset and the long duration of the sleep in subjects which have had intravenous injections of chloral can be understood. M. Arloing, therefore, concludes that chloral becomes decomposed into chloroform and alkaline formiates in the blood of animals, that the anæsthetic effects of chloral are due to chloroform, that the alkaline formiates favour their production mechanically by increasing the quickness of the circulation, and by thus facilitating the impregnation of the nerve-elements with the anæsthetic agent.—*Brit. Med. Journ.*

DEATH FROM CHLOROFORM.

WE are much indebted to Mr. H. H. Robinson, House-Surgeon of the General Infirmary, Hull, for the report of a death from chloroform which occurred in that institution last week. The facts of the case are briefly as follows:—The patient, a powerfully-built country labourer, was admitted, under Mr. Craven, with a disorganised eyeball, the result of old injury. He came to the hospital for the purpose of having the eye removed, and, on November 21st, this was done by Mr. Craven. Chloroform was administered on a towel by Mr. W. H. Smith, one of the assistant house-surgeons, and the patient was quickly under its influence without a struggle. The operation was then proceeded with and completed in something less than five minutes, the effect of the chloroform being kept up during part of that time. When on the point of dressing the eye the patient suddenly

ceased breathing, and his face became livid. The tongue was at once pulled forwards and artificial respiration resorted to. Galvanism and nitrite of amyl were also tried, but, unfortunately, without success. So far as can be judged, the patient had not inhaled any of the vapour for three or four minutes previous to the respiration ceasing. Mr. Smith states that when the administration was stopped the pulse was a fairly good one. Post mortem: beyond intense congestion of the kidneys, nothing was discovered to throw any light on the case, the heart and lungs being apparently perfectly healthy. Mr. Robinson says that chloroform has been administered daily in this hospital for many years, and only once previously, twenty-five years ago, with fatal effects.—*Brit. Med. Journ.*

ANÆSTHESIA UNDER PRESSURE.

IN November last, M. Paul Bert, who is fast becoming a rival of Virchow himself in the distinction he is achieving in the fields of science and politics, described an interesting series of experiments on the facility and safety with which anæsthesia could be produced by administering a mixture of nitrous oxide and oxygen in an air-tight chamber, in which a pressure was maintained a little greater than that of the air; and he has communicated to a recent meeting of the Académie des Sciences some further observations, in which the subject is transferred from the domain of experiment to that of practical surgery. Commonly, to obtain anæsthesia under ordinary atmospheric pressure, it is necessary to administer pure nitrous oxide, and the gas can only be employed for operations of short duration, for asphyxia threatens the patient as soon as sensibility disappears. Hence this method has remained almost exclusively in the hands of the Dentists, who have employed it with safety hundreds of thousands of times. The method proposed by M. Paul Bert, however, permits the use of this anæsthetic agent for operations of considerable duration. Two surgeons, of the Paris hospitals, have responded to the appeal of M. Bert to permit a trial of the method, and the object of his recent communication was to relate to the Académie the particulars of its employment in these cases. He described, first, the case of the removal of a nail by M. Labbé. The patient was a young girl, twenty years of age, timid and nervous. In a closed chamber of sheet-iron the pressure of air was increased $\cdot 17$ m. (total pressure $\cdot 92$ m.) The

patient lay upon a mattress, and M. Préterre applied the nose-piece of the apparatus, which he employs for the administration of pure nitrous oxide, connected with a bag containing a mixture of 85 parts of nitrous oxide and 15 of oxygen. The pulse was, before the administration, rather rapid, when suddenly, ten or fifteen seconds after the first inhalation, without any change in the pulse, respiration, or colour of the skin, without any agitation or excitement, the arm became thoroughly flaccid, insensibility and muscular relaxation were complete, the cornea could be touched without winking. The operation was commenced and completed, and the dressing applied, without the least movement on the part of the patient, who kept in a calm sleep, the pulse having fallen to the normal frequency. At the end of four minutes, when the operation was over, slight contractions occurred in one arm, and then in the leg. The mouth-piece was removed and the contractions ceased. The patient continued to sleep for thirty seconds, and then was readily awakened, and stated that she felt well and was very hungry, and remembered only a sensation of "grand bien-être," produced by the first inhalations. She seemed "to mount up to the sky, which she saw blue with stars." She was able to walk, took food almost immediately, and complained of no unpleasant consequence.

The details of this case are interesting, as showing the quickness with which the anæsthesia was produced and with which it passed off—a striking difference from the effects of ether and chloroform. Much more important operations, sixteen in number, have been performed by M. Péan—three amputations of the breast, four operations upon bone, six extirpations of tumours, a resection of the infra-orbital nerve, and two reductions of dislocations of the shoulder of three and four days' duration. The anæsthesia was maintained for periods varying from four to twenty-six minutes. The time occupied in producing anæsthesia varied from fifteen seconds to two minutes. Complete return of sensibility took place commonly in one minute; sometimes a slight degree of analgesia persisted for one or two minutes more. In one operation a slight accident permitted the patient to take one inspiration of the external air. She immediately began to talk, but complained of no pain. The first fresh inspiration of the gas arrested her speech instantly, and she did not, after recovery, remember the incident. The pulse and respiration were sometimes quickened at the commencement of the inhalation, but it was difficult to say how far this was due to the action of the gas. With insensibility the normal frequency was always resumed. In most cases

the patients did not complain of any feeling of malaise on leaving the apparatus, and when the operation had not been of a serious character, they frequently walked and asked for food. In three cases there was some subsequent nausea, but in each of them india-rubber mouth-pieces or new india-rubber bags were employed, and it is possible that the nausea should not be attributed to the nitrous oxide. A more frequent and unpleasant accident is the appearance of spasm in the limbs. M. Bert is sure, however, that this is due to the pressure under which the gas is administered being insufficient. An increase in the pressure of $\cdot 02$ m. or $\cdot 03$ m., which could always be instantly obtained, sufficed to arrest it in every case.

The excess of pressure employed varied between $\cdot 15$ m. and $\cdot 22$ m. In one case of reduction of a dislocation of three days' duration in a dealer in alcohol, it was necessary to employ an excess of pressure of $\cdot 26$ m. before insensibility and muscular relaxation were obtained, and yet the patient spoke during almost the whole of the operation. Thus the employment of compressed air permits the modification of the dose of the agent with the greatest facility. It is a difficult thing to change the proportion of a gaseous mixture, but a very easy thing to alter the tension of the chamber, and so the dose of the anæsthetic.

M. Bert, in conclusion, maintains the superiority of his method over the compounds of hydrogen with carbon and chlorine in the following particulars :—(1) by the absence of the period of initial excitement which is often so unpleasant and sometimes is even dangerous ; (2) by the confidence and tranquility which it gives to the surgeon, who is sure that the dose of the anæsthetic will not change during the operation, and that, in consequence, the patient has nothing to fear ; (3) by the almost instantaneous return of complete sensibility, even after twenty-six minutes of anæsthesia, so that, if it is desired, the patient may be awakened at a certain period of the operation, and immediately put to sleep again ; (4) by the common absence of malaise, nausea, and vomiting, so frequent and tedious after the use of chloroform and ether ; (5) and lastly, according to the experiments which have been performed upon animals, and the cases in which it has been used by man, the perfect safety of the method. He believes that the material difficulties will not prevent the adoption of the method, especially since Dr. Fontaine has invented a movable chamber, which is suited to the purpose. His estimate of its relative advantages, however, must be considerably modified if we compare it, not as he does, with pure nitrous oxide, but with the

mixture of nitrous oxide and ether, which Mr. Clover has found so valuable, and which possesses several of the advantages of M. Bert's method, to which the necessity for an air-tight chamber is a serious practical drawback. It is very desirable that the method should be fairly tried, and one of our scientific bodies who have the power of granting sums of money for investigation could hardly apply a grant to a better end; but the advantages of the method will have to be signal and incontestable before we can expect air-tight chambers to be introduced for operations in our large hospitals, while it is doubtful whether the procedure is capable of practical employment outside hospital walls.—*Lancet*.

THE ACTION OF PLATINUM.

THERE are few well-known metals the action of which has been less studied than that of platinum. Almost the only observations are those of Höfer, forty, and of Gmelin, fifty years ago. This gap in our pharmacological research has been, to some extent, filled by some investigations of Dr. Frederic Kebler, of Cincinnati, in the laboratory at Strasbourg, which have been published in the 'Archiv für Experim. Pathologie u. Pharmakologie.' The observations relate to the action of platinum on both frogs and warm-blooded animals. The mode of administration was the subcutaneous injection of a solution of chloride of platinum neutralised by carbonate of soda. The first observations were made on frogs. The injections corresponded to from three to fifty milligrammes of platinum. The chief effects were found to be augmentation of the general sensibility; heaviness of voluntary movements; curving of the back when this or the head was stroked, sometimes with painful reflex extension of the hind legs on cutaneous irritation; increasing paralysis of the voluntary movements; spontaneous convulsive spasms of the extremities, or individual groups of muscles; weakened muscular irritability; loss of consciousness; and death. The convulsive contractions were not observed in *rana temporaria*. From these effects it would seem that platinum paralyses the voluntary muscles, but paralyses their movements before it affects the muscles themselves, apparently in consequence of a specific action on the central nervous system. At the same time, the centres are so stimulated that muscular spasm, and even convulsion may result. The heart appears much less affected than the voluntary muscles, being scarcely interfered with, when death occurs.

In mammals, however, the action is somewhat different.

The direct effect on the muscles is not perceptible. Death rapidly occurs from a paralysis of the abdominal vessels when a dose is administered such as might affect the muscles. In rabbits a copious diarrhoea is produced, and in dogs there are also vomiting and hæmorrhagic stools. In the former, post mortem, the mucous membrane of the stomach and intestine is hyperæmic, and in the latter the hyperæmia extends also to all the abdominal organs, including the kidneys; and the mucous membrane of the intestine is swollen and infiltrated with blood. The indications of an action upon other organs are less distinct. The muscular irritability was in all cases preserved up to death. In both kinds of animals indications of general paralysis were perceptible soon after the administration of the poison, expressed first in apathy and weakness, but increasing before death to complete powerlessness. In rabbits spasmodic contractions were noted, but only just before death, and never of the character of intense convulsions.

The paralysis of the abdominal vessels causes a diminution in the blood-pressure, which progresses to the end, and appears, indeed, to be the immediate cause of death. This fall in pressure is to be ascribed solely to the vascular paralysis, since the frequency of the pulse undergoes little change, and the other cardiac phenomena do not suggest any direct action of platinum on the heart. A dilute solution of platinum salt applied directly to the frog's heart produces no effect upon it. From this it is inferred that the fall in the blood-pressure is due entirely to the paralysis of the vaso-motor nerves. When the fall is but slight, soon after the injection, stimulation of the cervical cord brings the blood-pressure up to the normal. The greater the fall the slighter is the effect which such stimulation can produce upon it. Hence the action of the poison appears to be upon the muscular fibres or the peripheral nerve-endings of the vessels, most probably upon the latter. To this vaso-motor paralysis the other intestinal phenomena of platinum poisoning may be referred, and it would seem that the consequent anæmia of the central nervous system may be the cause of the nervous symptoms. But the phenomena presented by frogs, and some of the characters of the weakness in mammals, suggest that probably platinum has also a specific action on the central nervous system, and the nervous symptoms are due partly to this, and partly to the local anæmia. The fatal dose of platinum appears to be, for dogs five to six milligrammes, for rabbits about ten milligrammes, per kilogramme of body-weight of the animals experimented upon.—*The Lancet*.

HOW FOREIGN DEGREES MAY BE OBTAINED.

To the Editor of the 'British Medical Journal.'

SIR,—On a recent visit to the United States, certain facts in respect to the value of the Doctorate in Dental Surgery or Medicine as a measure of professional culture, came to my knowledge, which in the interest of professional education should be generally known.

I had determined to avail myself of the first opportunity which presented to learn from personal inquiry how far the alleged traffic in "bogus" degrees is consistent with truth. With this view I presented myself as a candidate for the degree of Doctor in Dental Surgery at the office of a well-known chartered university, having for its home a small building in a third-rate street in one of the principal American cities. I was received by the Dean of the Faculty, who informed me that the conditions of graduation were as follows:—That I should state how long I had been in practice; that I should, on a subsequent day, attend there for about three hours, and perform certain operations, and be examined; that I should sign my name in the presence of a notary public, and pay £10, for which I should receive the degrees of D.D.S. and D.M.D., meaning respectively Doctor of Dental Surgery and of Dental Medicine!

I ventured to express the hope that I should not be required to swear how long I had been in practice, and was informed, "Oh! we do all the swearing;" and my inquiry respecting the difficulties of the operations and of the examinations was answered by an assuring gesticulation. I believe that for a few pounds more I could have been made M.D.

A degree so obtained must be, to all intents and purposes, a "bogus" degree—one that does not indicate in the possessor any professional knowledge. In two other transatlantic colleges I obtained ample evidence in support of the allegation that the terms of graduation laid down in their prospectuses are not always observed. In one case the Doctorate was given after six weeks' attendance, in place of the stipulated five months' course, and in another after an equally short period of study; and in both cases to incompetent men. The institution which sells its degrees for £10 each issues a prospectus just as complete in its educational requirements, and supported by as imposing a list of professors as in that of any *bonâ-fide* college. They are practically alike to the reader, unless he has, like the writer, been on the spot, and able to read between the lines. Bodies which undertake both to educate and graduate within their

own walls, and in which the teachers and examiners are one and the same persons, may or may not observe the conditions of graduation set forth in their calendars.

In the absence of publicity, who can say whether the published conditions are fulfilled with strict impartiality? Who can tell when the title of Doctor is but a receipt for £10, or when it is a guarantee of professional knowledge?

Yours truly,

M.R.S.C. Eng., not D.D.S. of America.

P.S.—I found out that a former fellow-student of my own, who had never got his schedules signed in England, had bought this degree of D.D.S. for £30, without any examination at all. It may be added that it is possible to get the degree of M.D. after a three years' curriculum, and the D.D.S. after a two years' curriculum, at all but two of the eight colleges in America I visited; and of the latter, each course consists of four to five months only of each year, and five years' practice is accepted instead of one course.

CHANCRES OF THE TONSILS AND THE BUCCAL CAVITY.—M. Spillman has published in the '*Revue Medicale de l'Est*,' two cases of chancre which are very remarkable, both for the peculiar circumstances attending the infection, and for the difficulty of making a diagnosis.

The first was that of a lady, aged 59, whose position in life was such as to exclude all suspicion of syphilitic infection. She consulted M. Spillman for a slight sore throat which she had had about a fortnight, the pain being more violent during the act of swallowing. There was also considerable swelling of the glands at the angle of the right maxilla. On examination of the throat, a wound of the size of a threepenny piece was seen on the surface of the right tonsil, slightly depressed, and of a greyish hue. The mucous membrane around it was œdematous, and the parotid glands enlarged and tender to pressure. No other lesion could be discovered either in the mouth or throat, nor was there any external redness of the skin. The patient herself did not complain of any particular feeling of ill health, and seemed to consider her disease as a very trifling matter. M. Spillman, who was well acquainted with his patient's way of living, could not conceive the existence of syphilis; but a few days later, the characteristic syphilitic rash broke out, so that there could be no doubt as to the nature of the affection.

The only difficulty to solve was the etiology of the case, and, after a great deal of trouble, it was discovered that the patient had adopted a baby, which she was bringing up by hand, and that in order to see if the temperature of the milk in the feeding-bottle was right, she often used to try it by drinking from the rubber mouthpiece. The infant being examined, was found to be suffering from hereditary syphilis, with ulcerations of the mouth and the genital parts.

The second case is not less interesting respecting the way in which the infection had been communicated. An upholsterer's apprentice, aged 13, had had for some days previous to consulting M. Spillman, a small red patch of the size of a threepenny piece on the lower lip; this patch was indurated at the base, the glands were enlarged—in short, it was an undoubted chancre of the lip. It seemed impossible at first to discover the cause, when it was discovered that the boy used to work with a man who was suffering from syphilis, and took his nails from the same bag as this man. Upholsterers, it seems, are in the habit of putting into their mouths handfuls of the small nails which they use for their work, putting back the surplus nails into the bag. The workman was examined and found to have syphilitic patches in the mouth, and there can, therefore, be no doubt that the boy was infected by putting into his mouth nails which were impregnated with the saliva of this man.—*London Med. Record.*

PHYSIOLOGICAL ACTION OF CARBOLIC ACID ON THE NERVOUS SYSTEM.—Dr. Sumner Stone, in his graduation thesis, founded upon an experimental investigation, arrives at the following conclusions:—"In large doses carbolic acid may cause immediate paralysis through spinal depression. Smaller doses cause clonic convulsions of spinal origin. Convulsions and paralysis may exist at the same time in one animal, the posterior extremities being paralysed first. Neither motor nor sensory nerves nor muscles are affected by carbolic acid. Reflex action with small doses is first diminished through irritation of Setschenow's centre; it is then increased through its subsequent paralysis, the irritation explaining the ordinary occurrence of *apparent* muscular weakness in the early stage of the poisoning, while the convulsions follow its paralysis. Larger doses may paralyse Setschenow's centre immediately. It is probable that the spinal action of carbolic acid is confined to the motor columns."—*Phil. Med. Times.*

NEW STUDENTS.

IN connection with entries one of the most noteworthy facts is the great falling away at the Dental Hospital. This year there are only 17 pupils, whereas on an average there are 30. This shows tolerably clear the effect of the recent Dental Act. All who only desired to have their names registered could easily do so, and now we have the measure of those who desire a sound education in Dental surgery.

At St. Bartholomew's there are of Dental students 2. The "special" entries for practice or lectures 20.—*Medical Times and Gazette*.

WE have received from H. Silverlock, of 92, Blackfriars Road, some specimens of excellent visiting lists and diaries for medical men, some of which might, we think, be advantageously used by Dentists.

Dental News and Critical Reports.

EDINBURGH DENTAL HOSPITAL AND SCHOOL, 30, CHAMBERS STREET.

THE new Edinburgh Dental Hospital and School was formally inaugurated yesterday within the Medical School, Minto House, Chambers Street. The Lord Provost; Lord Rosebery; Dr. Peddie, P.R.C.P.E.; Mr. David Dickson, Master of the Merchant Company; Mr. John Cook, W.S.; Drs. Handyside, Charles Bell, Keiller, Bruce, and Dycer; Councillors Clapperton and Turnbull; Mr. Bowman McLeod, L.D.S.; Mr. Andrew Wilson, L.D.S.; Mr. Chisholm, L.D.S., &c. Apologies were intimated from Mr. Duncan M'Laren, M.P.; Mr. Grant, M.P.; Rev. Dr. Macgregor, Dr. Zeigler, &c.

The LORD PROVOST congratulated those present on the success they had had in completing the arrangements connected with the hospital, in having added this to the medical teaching institutions of this city, and in having secured such an efficient medical staff. He had much pleasure in introducing to them Mr. Imlach, the first President of the Royal College of Surgeons elected from the ranks of the Dental profession. (Applause.)

Mr. IMLACH said that for many years the members of the Dental profession had been individually struggling to do what was in their power to raise the educational standard of their members, but those who had been so long connected with it as he had been knew how hopeless it seemed to be some thirty or forty years ago. Then any one might practise Dentistry, and to the irresponsible and uneducated practitioner it opened up a wide field for every kind of quackery, which he was sorry to say was in some of their larger towns taken advantage of to a considerable extent. The change which had taken place in the practice of the profession since that time was even greater than what had taken place in any other branch of surgery. It was to a gentleman of this city that they were greatly indebted for efforts made to improve the state of matters which then existed—he meant Mr. Hogue, the father of one of their examiners. To the American Dentists they were, however, mainly indebted for the first great improvements which took place in the mechanical branch of the profession. This he attributed in a great measure to the Americans having begun before themselves to have educational colleges for their young practitioners, but they were now, he was happy to say, well up to the Americans in the race of mechanical knowledge, and at present, even with their limited opportunities, were outstripping them in some other branches of Dentistry. (Applause.) He was fully confident that the rising generation of Dentists would in this country, by the increased facilities afforded them, be as pre-eminent in this branch of surgery as the men in the other branches of it already were, of whom they were justly proud. He argued the necessity of a thorough medical and surgical education for a fully qualified Dental practitioner, as without it he would be quite unable to account for the great changes which took place in the dental textures from various diseases. Dietetics, chemistry, and anatomy ought also to be studied. He concluded by giving a narrative of the attempts to introduce Dental education into Edinburgh by Dr. Smith, Mr. Nasmyth, Dr. Orphoot, and himself, down to the time when the Dental Act was passed.

Dr. JOHN SMITH also spoke of the growth of the Dental School in Edinburgh at some length. He said that matters had proceeded favorably since the Dental Act passed, conferring upon the Edinburgh College, among others, the power of granting a licence in Dental surgery; and now that the College had accepted this power, and issued a curriculum of study, the Dental Hospital and School became a necessity. It was at first proposed that the old Dental Dispensary

should extend its teaching and its premises to meet this want, but it was subsequently thought better to have a new school and to reorganise the whole system of Dental attendance and instruction, and as it would have been injudicious to have two similar institutions, with competing and conflicting interests, it was arranged by mutual consent that the old dispensary should be closed and merged in the new Dental Hospital School. He had every confidence in the success of the school.

On the motion of Dr. PEDDIE, P.R.C.P.E., a vote of thanks was given to Mr. Imlach for his address.

Lord ROSEBURY, President of the Dental Hospital and School, proposed a vote of thanks to the Lord Provost for presiding. He said he was exceedingly glad to be present at the inauguration of this useful institution. When he was invited last year to take the post of president, he undertook that charge on the understanding that his name might be of some use to the association, and, he fancied, on the very distinct understanding that he should have no professional duties to undertake. (Laughter.) While he had been very glad to be present in his official position, he had also been extraordinarily interested by the remarks of Mr. Imlach. It would not be a compliment to him, perhaps, to say that he had never spent so long a time with a gentleman versed in Dentistry with so much pleasure as he had that day. (Laughter.) It was not very easy for any one who only knew of the passive and unfortunate part of Dentistry which most of them were acquainted with—(Laughter)—to say much on this painful subject—(Laughter)—but the President of the College of Surgeons had alluded to the question of dietetics, and he would like to ask him one question. They had all observed the beautiful teeth sailors had, or appeared to have, for some said they were more beautiful by contrast than in reality. Might that not proceed from the monotonous character of their diet? Another remark which had been made was that in some parts of Dental practice they had already outstripped the Americans. Well, it was his impression that the Americans were more or less ahead of them in this, and certainly some Americans complained that they could not get the instruments in England which they wished to use. In America they carried the practice to an alarming extent. They would not part with the remotest shadow of a tooth as long as there was anything to swear by. (Laughter.) In America they would see mouths which presented nothing to them but a solid mass of gold with a faint tinge of enamel over the yellow metal. (Great laughter.) At the same time, the American Dentists had

difficulties to contend with, which he hoped their Dentists had not. The practice of chewing was very prevalent in America—(Laughter)—and could not but be injurious to the teeth. He believed the practice was dying out in Scotland, but he had seen an American take a handful of tobacco out of his pocket and cram it into his mouth as if it were food. (Laughter.)

Mr. DAVID HERBURN seconded the vote of thanks to the Lord Provost, and it having been heartily responded to, the proceedings terminated.—*Edinburgh Courant*.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

At a meeting of the Council of the Royal College of Surgeons of England on the 16th ult., a letter was read from the Registrar of the General Medical Council, setting forth a resolution of that Council passed at their meeting on the 19th July last:—"That the Council of the Royal College of Surgeons of England be requested to reconsider their determination as to the admission of candidates for a Dental qualification, *sine curriculo*, up to August, 1881."

The Council of the College of Surgeons decided that it was not expedient to alter the existing arrangements of the College with regard to the admission of candidates to the Dental Examination *sine curriculo*.

All the Licentiates of Dental Surgery of the College will be grateful to the Council for adhering to the conditions under which they obtained their degree, and for maintaining the policy which is calculated to give prestige to the Dental Licence of the College.

EXAMINATION FOR DIPLOMA IN DENTAL SURGERY.—The following questions were submitted to candidates at the written examination on October 24th, 1879:—

Anatomy and Physiology.

1. Describe the curves of the Spinal Column. State generally how the Vertebrae are articulated with each other.
2. State the composition of atmospheric air, and what changes are effected in it by Respiration.

Surgery and Pathology.

1. Describe the characters of (1) a spreading Ulcer, and of (2) a healing Ulcer.

2. What are the signs of Fracture of a Bone? What are the general indications requiring attention in the treatment of fractures?

Dental Anatomy and Physiology.

1. Describe Microscopic Specimens 1, 2, 3.
2. Give examples of birds having teeth, and describe them.
3. What are the processes by which the temporary teeth are removed and replaced by the permanent? Give the histological characters of the structures involved.

Dental Surgery and Pathology.

1. Describe, in the order of occurrence, the symptoms and results, local and general, arising from caries extending to the pulp in a third molar and permanent central incisor.
2. Mention the affections of the gums—whether arising from local or general causes—which it is desirable that the Dental surgeon should recognise. Describe briefly their chief characteristics.
3. What are the mechanical injuries to which teeth are liable, the consequences arising from them, and the treatment to be adopted in each kind?

PASS LIST.—The following gentlemen, having fulfilled the conditions of the curriculum and passed the necessary examinations, were admitted Licentiates in Dental Surgery on the 28th ult.:—Davis, Harry, Kew; Hammond, G. E., Leinster Square; Maggs, W. A., Yeovil; Magor, John B., Penzance; Isard, W. A., Buenos Ayres. Three candidates were referred to their studies for six months.

FACULTY OF PHYSICIANS AND SURGEONS OF
GLASGOW.

PASS LIST.—At the October quarterly meeting of the Dental Board of the Faculty of Physicians and Surgeons of Glasgow, the following gentlemen were admitted Licentiates in Dental Surgery:—Robert Chrystie, Dumfries; James Cumming, Glasgow; James H. Chisholm, Glasgow; John Foulds, Glasgow; John Gourlay, Glasgow; W. S. Gillespie, Glasgow; Harry A. Hutchinson, Dundee; John Melville, Glasgow; John Richards, Hastings; Alexander P. Robertson, Glasgow; Charles S. Sinclair, Glasgow. Of the fifteen candidates who presented themselves four were remitted to their studies.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

Meetings for 1880.—January 12th (Anniversary), February 2nd, March 1st, April 5th, May 3rd, and June 7th. At the ordinary meetings the chair is taken at 8 p.m. The Council meet at 7 p.m.

Honorary Secretaries.—Ashley Barrett, Esq., S. J. Hutchinson, Esq., W. G. Ranger, Esq. (Foreign).

ASSOCIATION OF SURGEONS PRACTISING DENTAL
SURGERY.

President.—S. J. A. Salter, Esq., M.B., F.R.S.

Vice-Presidents.

J. A. Baker, Esq.		W. A. N. Cattlin, Esq.
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F. Fox, Esq.		John H. Parkinson, Esq.
G. Gregson, Esq.		W. G. Ranger, Esq.

THE meetings of the present session of the Association of Surgeons Practising Dental Surgery will take place at 11, Chandos Street, Cavendish Square, W., on the following Wednesdays at 8.30 p.m.:—Dec. 17th, 1879, Jan. 28th (general meeting for the election of officers and council), Feb. 18th, March 17th, April 21st, May 19th, 1880. The meetings of the council will be held on the above evenings at 8 o'clock precisely.—J. HAMILTON CRAIGIE, Hon. Sec.

We understand that this Society now numbers seventy members.

DINNER OF THE PAST AND PRESENT STUDENTS OF
THE DENTAL HOSPITAL OF LONDON.

THIS dinner passed off with eminent success. We regret that through an accident no reporter was present, but the following particulars have been furnished to us by one present.

The whole arrangement of the dinner and music was got up and arranged by Mr. David Hepburn.

There were about sixty or seventy present.

The following is a list of the toasts :

"The Queen," by the Chairman.

"The Prince and Princess of Wales, and the other members of the Royal Family," by the Chairman.

"The Army, Navy, and Reserve Forces," by the Chairman, responded to by J. S. Turner, Esq.

"The Past and Present Students," by the Chairman.

Mr. Harding responded for Past, and Mr. R. G. Bradshaw for Present Students.

"The Dental Hospital and Staff," by — Sibley, Esq., Mr. Coleman responding in a very able manner, and in speaking of the students, said that each student should learn to rely on himself, and not to stick to one set rule.

"The Medical School and Lecturers," by C. Vasey, Esq. Charles S. Tomes responded.

"The Chairman," by Robert Hepburn, Esq., to which the Chairman replied.

"The Dean," by Mr. Alfred Hill. The Dean replied.

"The Visitors," by the Chairman, coupled with the name of Mr. Bell, who replied.

The Chairman then proposed the health of Mr. David Hepburn, thanking him for all the great trouble he had taken in the matter, and for the music he had supplied them with.

The selection of music between the toasts was rendered by Messrs. David Hepburn, A. Underwood, S. Bennett, A. Smith, — Bell, C. Robbins, — Blackmore, and R. G. Bradshaw.

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

FRAUDS UPON DENTISTS AND THEIR REMEDY.

THE anxieties that surround Dental practice are sufficiently exhausting without being heightened by the visits of sham patients, whose only object is either to swindle or to satisfy idle curiosity.

Many years ago a woman, the daughter of a so-called Dentist, amused herself by visiting all the best known practitioners in London, ostensibly for the purpose of consulting

them upon the condition of her mouth, but really, to use her own words, "to see what kinds of men they were, what their waiting-rooms and their surgeries were like, and more particularly to see how many patients they had waiting for them." At length, being hard pressed, she made a confession of the whole affair, but at the same time seemed rather proud of the information she had obtained. This woman's object was, however, comparatively speaking, an innocent one, although she gloried in the assertion that more patients were waiting for the advertising Dentists than all the rest of the profession put together.

Many years ago, I was visited by a man dressed in the livery of a servant, who said he came to make an appointment for an invalid lady whose address he volunteered. He openly carried in one hand a book, and very soon afterwards returned to alter the time for the appointment, carrying off with him a volume from the waiting-room table, and most likely in other instances any portable article he could lay his hands upon.

Another well-known swindler lived upon an artificial tooth for months, if not for years. He had lost a central, and while the operator was out of the room to prepare for taking his model, he managed to steal sets of teeth or instruments, or indeed any little article easily removed. Mouth mirrors he no doubt purloined by the dozen, and he favoured other towns besides London with a visit until his notorious career was stopped.

We had recorded before the Odontological Society on its last meeting, a new kind of swindle evidently carried out by an old hand. Mr. Woodhouse warned the members against a man who was going the round of the profession getting sets of teeth mounted in gold. He had, in a few weeks, secured four sets, and may possibly have obtained others. When at a loss to know whom next to favour, he asks at the nearest chemist's shop for the most respectable Dentist in the neighbourhood; and as he gives his correct name and address (which latter doubtless he changes frequently), he cannot be prosecuted for obtaining money under false pretences.

The consideration of swindles of this character opens up an interesting question. Should a Dentist give to a perfect stranger his time, his skill, and his costly materials, without demanding a sum of money down in the form of a deposit? Indeed, I feel disposed to go further, and to ask should he be put to the expense in *any case*, unless it be to a known patient or to one who comes well recommended? I know that it is exceedingly disagreeable to suggest anything of

the kind, but we have sometimes visitors—ordinary patients—who fail to keep their engagements. In some instances a certain number of teeth have been filled or extracted, the mouth may have been prepared for artificial teeth, or the teeth may have been actually completed. Is it not better in “certain” cases to demand fees as we proceed?

There is hardly a practitioner of any standing who has not drawers full of uncalled-for work. Why should he be the loser? The Dentist's fees are supposed to be paid at the time, and I cannot understand why this good old practice should be departed from. Patients that have paid in proportion to the trouble already given, will see that their interests are not lost sight of, while those who object to so reasonable a demand are better left unattended to. The word deposit may sound harsh and tradesman-like, but it is a thorough and just arrangement, and one that would at once put a stop to swindling proceedings like those I have noticed. It would do more, it would teach the wavering and the fickle that they cannot play fast and loose with a professional man's time, or depart from an agreement that not only jeopardises his income but his reputation also

THE EXTRACTION OF TEETH.

ON SCIENTIFIC PRINCIPLES, OR BY A MECHANICAL VIOLENT
WRENCH.

To the Editor of the 'British Journal of Dental Science.'

SIR.—I forward you a letter in answer to an article on “Extraction,” from the pen of Mr. Ward, that appeared in your last number. I trust my communication will be found to merit insertion, and taking, as it does, a widely divergent view on the matter of “extraction” from that held by Mr. Ward, its insertion would be an act of impartiality on your part, and at the same time gratifying to the writer, who has for some years been a regular subscriber to the Journal, and who wishes here to express his high sense of the ability and firmly-grounded principles of fair play that have ever marked its conduct. With a hope that my effusion will meet with your favorable consideration,

I am, &c.,

V. C. MALLAN.

173, Praed Street, Paddington, W.

I, in common with, I doubt not, many other Dental practitioners, read with simple amazement an article entitled “Extraction,” from the pen of Mr. George Ward, which

appeared in the last number of your journal. While thoroughly endorsing Mr. Ward's views on the wholesale registration of chemists as Surgeon-Dentists, I am at the same time seriously at variance with him on the question of the extraction of teeth. Indeed, I take exception almost *in toto* to his remarks on this important subject. Surely he is an acute sufferer from that peculiar malady known as *cacoëthes scribendi*, when he commits to paper such fallacious inconsistent reasoning as that of which he constitutes himself the exponent in your November number. When Mr. Ward states his opinion that extraction only should not constitute a chemist a Surgeon-Dentist, he treads on perfectly safe ground, and to that extent I cordially re-echo the sentiments to which he gives expression. In his enthusiastic defence of Surgical-Dentistry, however, he transports himself beyond the charmed region of moderation. He assails with fierce invective the fortifications and defences of the foe, carrying all before him, and dealing havoc far and wide in the opposing ranks; but in the very fury and vehemence of that onset he nearly succeeds in involving friends and foes alike in universal ruin—in giving them one common place of sepulture, “in one red burial blent.” The name of that charnel-house is “extraction.” Cannot Mr. Ward see that, in holding up to ridicule and contempt the art of extraction, he is using a defensive weapon of questionable calibre; suspending a very sword of Damocles above his own devoted head, nay, that he is flourishing in his hand the fatal knife with which, though perhaps unconsciously, he is seeking to seal his own fate. When he speaks of the extraction of teeth as one of the simplest of all surgical operations, and makes the sweeping assertion that “there is nothing scientific about it, for it is at the best a simple mechanical violent wrench or pull in the dark,” does he not hold up to scorn and derision one of the acknowledged fundamental principles of surgical Dentistry? Whatever his real intentions may have been, Mr. Ward will, I am convinced, find it impossible to deny, on reflection, that his remarks strongly tend to throw discredit on surgical Dentistry as a profession, and to lower it very considerably in the estimation of its followers. It must be patent to any Dentist at all conversant with his calling that the assertion thus boldly made by Mr. Ward is in direct contradiction to actual facts. I will not go so far as absolutely to deny that there is any element of uncertainty attending the extraction of teeth. Undoubtedly there are difficulties to encounter, occasioned by varying formations of the fangs, &c., which cannot in every case be treated on fixed principles, but obstacles such as these are not to be

combated and overcome by "a simple mechanical violent wrench," as Mr. Ward describes the operation (if it deserves to be dignified by that name). The employment of brute force will undoubtedly in the majority of instances successfully effect the end it has in view, viz. the forcible extraction of an offending tooth, but is it, I ask, a method on which professors of surgical Dentistry could pride themselves or regard with satisfaction? I think there would be an almost unanimous answer in the negative. Science, whatever the author of the paper on "Extraction" may say to the contrary, has of late years very effectually intervened on behalf of toothaching humanity, and the revolting, barbarous system formerly in vogue has now, in the hands of competent men, lost many of its worst features.

Mr. Ward says that extraction is "an unscientific and uncertain operation." As to the uncertainty, although it does exist, yet science and the study of anatomy have reduced that unknown factor to a minimum. With respect to the "unscientific" aspect of the subject, Mr. Ward should bear in mind that the "science" at which he so profoundly sneers is not the mere creation of a fertile brain. It is an accomplished fact. There are strict principles laid down for the guidance of operators in the extraction of the various teeth; there is the knowledge of anatomy, so essential to an intelligent comprehension of those rules; and, further, it is requisite that the Dentist should be able to select the right instrument, and possess a well-defined acquaintance with its use. It is the possession of this knowledge and its practical application that constitutes the difference between a Surgeon-Dentist and one of Mr. Ward's butchers or barbers—or a farrier—as the case may be, who relies on the brute strength of his wrist and the tenacity of an unbending will to force a tooth from its socket. The gulf that separates the two is broad and well defined. It is a contest between education and intelligence, aided by science, on the one hand, and ignorance, strong-handed and indifferent to human suffering, on the other. The issue of the combat cannot be doubted, in fact, it has already been decided. The public have become sickened of lacerated gums and fractures of the alveoli, of teeth remorselessly and violently wrenched out by that remnant of a barbarous custom, the key. They prefer rather the refinement and skilled treatment to be obtained in a modern surgery, where science has triumphed over brute muscle and skill, and where there need be but little fear of their mouths being mutilated, torn, and injured. Thus it is we find that people now generally consult the Dentist, while the old-

fashioned tooth extractor is, as an institution, fast dying away. It has had its day, and is now being replaced by a system more in accord with the spirit of the age in which we live, a system which, with the true instinct of science, aims at the benefit of mankind, and seeks not only to inspire the confidence of patients, but also to alleviate as far as possible the horrors so closely linked with the practices of the teeth extractors of the past.

Mr. Ward says that "a butcher, or barber, or even a chemist, may be a first-rate extractor of teeth." That I am quite willing to grant. *Providing* they pay due attention to the guiding rules of structure I do not see why they should not perform the operation equally as well as a thoroughly skilled Dentist. It is notorious, however, that they have never done so. They have ever been found staunch adherents of that "simple mechanical wrench or pull in the dark" method so highly cherished by Mr. Ward, and hence the reason why numbers of the community forsake them for the Surgeon-Dentist.

My views on the subject of extraction are identical with those held by Mr. John Gorham, a Member of the Royal College of Surgeons, London, and Fellow of the Physical Society of Guy's Hospital, as the following extract from a useful little manual published by him in 1869 on 'Tooth Extraction' will show:—"As the teeth are of various forms, have single or many roots, and are articulated with the jaws in a variety of ways, the kind of operation necessary for the removal of one would not be applicable to them all. Several distinct operations, on the contrary, are required, as well as different instruments. Hence, if the teeth are to be drawn according to surgical rules, as undoubtedly they ought to be, a separate study is necessary for the extraction of each. . . . Yet the modes of extracting teeth have too frequently been merged, one and all, in one single procedure, called in common *parlance* the 'pulling out a tooth;' whereas there is not a single tooth in the head which can be said to be in reality extracted by a *pull*, but rather by well-directed pressure in this or that direction; the pull itself, if required at all, being the last, and generally the least, important part of the proceeding." Further proof can easily be adduced in support of my contention that the unceremonious wrenching out of teeth is an exploded idea. Here is an illustration. Have not forceps superseded the key as the chosen instrument with which the Dentist extracts teeth? And yet what is the principle on which the key (now almost obsolete) is used? The main feature is the great power which the operator is enabled through its handle to concen-

trate on the offending agent, thus greatly facilitating and aiding the drawing of a tooth by violent physical effort. To again quote Mr. Gorham, "The great power which is obtained in the key through its handle, and by which any tooth *may* be extracted by a mere wrench, regardless of consequences, is more than compensated for by using the forceps adapted to each tooth, and by applying the pressure, which this instrument admits of, in such directions, rotary, lateral, or bilateral, as occasion demands, and as may be suggested by the skill and dexterity of the operator. It would appear, then, that the enormous power which can be brought to bear on any tooth by the use of the key is altogether disproportionate to that which is actually required for its removal, and in the hands of the unskilful may lead to severe injury of the jaw, fracture of the alveolus, and sloughing of the gums. . . . If possible, every tooth in the head should be drawn with forceps." The difference between the key and the forceps is easily summed up. The one, in unskilled hands, is merely capable of a violent wrench, while its more modern companion permits of scientific pressure, which renders the operation less painful and obviates to a great extent those injuries to the jaw which the key so often inflicts.

Mr. Ward, towards the close of his paper, gives vent to a somewhat singular, and certainly equivocal, statement. He says, "It must not be imagined from the whole of the above that the writer holds the skill of extracting teeth as nothing. No! just the reverse, for a knowledge of the anatomy of the jaw is of some service in extraction. Also, a certain amount of due caution must be observed in extracting teeth; still, very ignorant men have been known to be capital extractors." It reads to me like a half apology and partial reiteration of previous assertions in one and the same breath. To say the least of it, the logic is remarkable, that is, so far as my dull comprehension will enable me to grasp the writer's ideas. What can one make out of this? Why, simply this, that Mr. Ward, though fully believing in the efficacy of his "simple mechanical violent wrench or pull in the dark" system, still thinks that "a knowledge of the anatomy of the jaw is of some service in extraction," and also that "a certain amount of due caution must be observed," but that in spite of all, "very ignorant men have been known to be capital extractors." It is a Gordian knot of logic that requires unravelling by another Alexander, a bewildering labyrinth of words, the threading of which leaves one where they started! That, at least, is the case with me. I cannot comprehend what Mr. Ward really does mean, whether he is

in favour of the unscientific extraction prompted by ignorance, the cause of which he so warmly espouses at the commencement of his paper; or whether, after all, he is not smitten by the pride that every man should take in his profession, and feels inclined to regard with less cynical eyes a system on whose side are ranged science, intellect, and education. Perhaps he will explain his views more explicitly in another number of your interesting and widely-read Journal. I may, in conclusion, state that this letter is not written out of any spirit of rivalry to Mr. Ward, whom I have not the pleasure of knowing personally; and that I have only been induced to take up the matter from a general professional point of view, not for the gratification of any private motives.

—VALLICK C. MALLAN.

NEW PINK RUBBER FOR COATING.

WE have received from Messrs. Ash some excellent specimens of a new pink Dental rubber for coating. It is a good pink colour when vulcanized, and does not require exposure to the sun to bring out the colour. It is equal in strength to the No. 1 x, and is so soft in the raw state that it can be packed cold if desired. It should be vulcanized at 312° Fahrenheit for 50 minutes.

THE OLDEST LECTURER IN EUROPE.

THE veteran chemist, Chevreul, whose name is associated with researches on fats and fatty acids, now in his ninety-third year, began, we read, his usual course of lectures on organic chemistry at the Museum of Natural History at Paris a short time since.

A DENTIST'S ACCOUNT.

MR. WALLACE, Dentist, Glasgow, sued a merchant in Falkirk, for £17, for supplying to his wife a set of teeth, and extracting twenty-three stumps of teeth with the use of nitrous oxide. The charge for extracting the teeth alone

was 7s. 6d. each. The Sheriff has allowed the pursuer £10 10s., allowing £2 2s. for the extraction of the stumps, which he considered ample for an operation which occupied only about half-an-hour.

BEEF WINE.

WE have received from the Beef Wine Company a specimen of a new tonic in the form of a liquor called beef wine. It is reported to aid in the restoration to health of those who are weak from long illness. In each bottle are 250 grains of meat extract, a large proportion of pure glycerine, quinine, and other valuable nervine agents, blended with a sound wine, which holds the whole in a perfect state of solution. It is a pleasant, nourishing, and exhilarating drink, yet at the same time a non-intoxicant, and we have found a glass of it invaluable when, in the hurry of practice or other calls on our time, we have not had time for lunch.

CIVIC PRESENTATION TO A DENTIST.

WE are pleased to have to record the presentation of a testimonial in the form of a tea and coffee service and large salver, all of solid silver, to Alderman Sir George Freeman, J.P., of 9, Beresford Street, Waterford, Ireland, a Dental Licentiate of the Royal College of Surgeons of England, in recognition of his civic services, especially in connection with the late fine art exhibition in that city. The presentation was made by an influential deputation of his fellow citizens, headed by the Mayor of Waterford.

THOMAS GILL PALMER.—AN ACROSTIC.

THE following lines on a late excellent and highly respected provincial practitioner, which have accidentally come into our possession, may, perhaps, interest some of his old friends to whom he was well known as a warm supporter of all Dental movements, and an especial friend to the

Dental Hospital of London, as his brother of Peterborough still is, and we trust may long continue to be.

T True Skill, in sooth, is that magician, who,
H owever great the deed, that deed can do !
O bserve the wonders of *this* wondrous age ;
M arvels, indeed ! to puzzle sophist, saint, or sage,
A dmire we may—This age surpassing, shows
S CIENCE, the boat of Life, still onward rows.

G ive *Skill* the honour that to it belongs,
I mmortalised in true-born poets' songs ;
L ong may it be, chief gem, on England's brow,
L ong prosper, and our Freedom to all lands avow.

P lace *I* then *Skill*, *relieving pain*, in THEE,
A mid the *records* of *our history* ;
L eaving a name behind, *such men* as THOU,
M ake us belove our mighty country *now*,
E steeming it for those good men, who, still
R edress full many a pang by facile Skill !

Cheltenham, March, 1867.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen, having passed the necessary examinations, obtained the diploma of Licentiate in Dental Surgery in October last:—Norman Bernard (Essex), William Barton (London).

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

EXAMINATIONS IN DENTAL SURGERY.

THESE examinations have undergone great improvements, as, in addition to the usual written and oral examination, there is a practical examination of patients of both sexes selected from hospitals, etc. Each candidate is required to make a gold filling. He must have prepared the cavity on a previous occasion, so that nothing has to be done but to insert the gold. The fillings must be such as will take from half to three-quarters of an hour to accomplish. Each candidate is required to take all his own plugging instruments and materials, rubber-dam, clamps, and gold.—*Brit. Med. Journ.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE are indebted to one of the successful candidates at the recent examination for the following report of the *viva voce* examination.

Anatomy and Physiology.

Taken over the parietal bone, what portion of the brain it helped to enclose, &c.?

What structures pass through the foramen magnum? Of what artery is the vertebral a branch? Give its course, and state what purpose is effected by its curving round the articular process of the atlas.

What is the action of the deltoid muscle? Give its origin and insertion.

Give the origin and insertion of the longest muscle in the body. When can this muscle be best displayed?

What kind of joint is the shoulder-joint? What are its ligaments? What movements are permitted by this joint? Where is found the best example of a ball-and-socket joint?

Mention the bones forming the upper extremity. In what way do the muscles of the face differ from those of any other part of the body? What is the effect of this? Give the structure of the tongue.

Surgery.

Which is the most frequent seat of fracture in the lower jaw? Why is this? In such a fracture which fragment would ride over the other? What muscles cause this? Does the inferior dental nerve get severed? What would be the effect of such an accident? Does much hæmorrhage occur? What kind of splint would you adopt? If proper union did not take place what would be your treatment? Supposing suppuration and necrosis to follow, what would be the constitutional effects?

Give the mode of formation of a dentigerous cyst. Would you recognise a specimen? There is one amongst those specimens (twenty or thirty different preparations in spirit on a large table in centre of room), bring it to me. You see in this case the half of the jaw from the symphysis to the condyle has been removed; is that your treatment? How would you operate?

Give the diagnosis and treatment of abscess of antrum.

Dental Anatomy and Physiology.

Describe the calcification of enamel and dentine, and compare the differences between them.

In what respect does the alveolo-dental periosteum differ from other periosteum? Why does the periosteum of a tooth pursue an oblique course?

Given skulls to determine age, &c.

What are these foramina? (Foramina, posterior to upper incisors, in the jaw of child *æt.* 5, for gubernacula.)

Dental Surgery and Pathology.

Shown models of syphilitic teeth, and of congenital cleft palate. Interrogated on the effect (constitutional) of syphilis, and asked my reasons for stating that the model indicated a congenital defect.

Give the symptoms, in order of occurrence, attendant upon absorption of alveolus.

Give the symptoms, in order of occurrence, attendant upon alveolar exostosis. What are the different forms of alveolar exostosis?

APPOINTMENT.

FREDERICK R. BATCHELOR, Esq., L.D.S.I., to be one of the Dental Surgeons of the Birmingham Dental Hospital.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

“AN IMPOSTOR.”

To the Editor of the ‘British Journal of Dental Science.’

SIR,—Permit me through your Journal to caution Dental practitioners against a man of the following description:—Age about 50; height 6 feet; prominent, full, dark eyes; heavy moustache; powerfully built; perfectly erect; and wearing at the present time a blue serge suit.

He applies to a Dentist saying that he has been recommended by some neighbouring doctor, chemist, or established firm, and that he requires a *gold* upper and lower (the upper minus one tooth, a central, the lower minus several teeth).

At our last meeting of the Odontological Society one of

the members alluded to this case, since which this man has called on me, but, having been previously forewarned, I have not allowed him to take any advantage of me. I am informed that many Dentists have supplied him, but no compensation have they received. The insertion of this in your next edition will put the perusers of this Journal on their guard, and oblige,

Yours, &c.,

JAMES MERSON.

35, Harley Street, W.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Could any of your readers kindly give some plain directions how steel instruments can be easily nickelled?

We have a dispensary in this city, and we are greatly troubled by the instruments getting easily rusted; we have tried various varnishes, but without success; if, therefore, some one would give us an idea how we could cheaply keep our instruments from rust we should feel greatly obliged.

We do not know how to prepare a bath for nickelling; and we do not know what kind of battery may be necessary; we do not know whether it is necessary to put a metallic piece of nickel into the bath while the instruments are there. In fact we know nothing of the process, and invoke your kindness to assist us. With every respect.

I am, &c.,

CHARLES WM. DUNN.

24, Piazza S. M. Novella, Firenze.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In looking over the Dental Register the number of names which have pharmacy attached to their qualification at once strikes the eye, and I have no doubt many Dentists like myself look upon it with displeasure. If they were *Dentists* practising pharmacy, instead of chemists wishing to practise Dentistry, no remark would be called for. But the present state of affairs ought not to be permitted.

I think an easy way to rectify this would be, viz. let one Dentist in every city, who is, or ought to be, a member of the British Dental Association, be appointed to report on the name of every person who practises Dentistry in conjunction with pharmacy as to whether they are known to the public as Dentists or only extract teeth, also if they had a name plate with "Dentist" upon it before the passing of the Bill.

Now there are Dental chemists worthy of the name of Dentist, but they are very few, and this would be doing them justice, as it would let the Association know who they are.

As it will be noticed, I have not mentioned some of those

who registered as practising Dentistry "separately," yet who are perhaps the greatest fools as regards Dentistry, and who have only started up a *few months previous* to the Bill being passed. The reason I have not mentioned them is this, I think we must take the Bill in its fullest meaning, that is, to *recognise all existing rights*. I do not consider that a chemist who was not *known to the public as a Dentist*, and who did not exhibit a name plate representing himself as such, *has any existing right* whereby he should be registered. Therefore, I do not think we exceed our duty when we erase these names from the Register. No doubt the informing against these men may be unpleasant to many, but no one should be ashamed to do his duty. I should not consider those struck off as being liable to the penalty for false registration, as many of them, no doubt, registered not properly understanding the reading of the Bill.

I am, &c.,

DRAREG KCALB,

Member of the British Dental Association.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The enclosed cutting has been forwarded to me by one of my friends; he may have had the intention of warning me to avoid a similar accident in my own practice, or his intention may perhaps have been to communicate the startling fact. Whatever his reasons, his thoughtfulness in drawing my attention to this fearful case is a proof of the education of our patients in Dentistry, and we must all feel that in educating ourselves the work is incomplete if those dependent upon our skill leave us powerless to exercise it in the majority of instances by their tardy visits, relying upon the Dentist to destroy the nerve or to extract the tooth, a *dernier ressort* not desired by the educated Dentists.

I feel grateful to this gentleman for his kind intention, and wish to assure him through the medium of your Journal—if you have a spare corner—that an experience of twenty years in Dentistry has taught me how to dread and how to value so deadly a drug, the use of which has been so much depreciated by Dentists from its easy absorption by the mucous membrane.

I hasten to take advantage of my friend's kindness to send you the slip that you may give it publicity in the quarter it will be most understood, and as a caution to any Dentist who recklessly resorts to the use of arsenic.

I am, &c., T. D.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.

ANSWERS TO CORRESPONDENTS.

- FIDES ET JUSTITIA.**—Your last letter does not bear the stamp of your usual good sense. You had no right to treat the case of which you confess you know nothing, but the doctor had a legal right to operate as he did.
- INQUIRER.**—There are 462 licentiates in Dental surgery of the Royal College of Surgeons of England.
- HENRY STOCKS and GEORGE WARD.**—Held over for consideration.
- J. E. RICHARDSON.**—Your communication shall receive every attention.

Communications received from Messrs. Henry Stocks, James Merson, W. J. Maggs, J. T. Craig, J. H. Craigie, Allen Edwards, "Fides et Justitia," C. W. Dunn, Appleby King, V. C. Mallan, "Veritas," J. H. Redman, C. Robbins, J. H. McCall, R. G. Bradshaw, George Ward, "Phosphor," "Our Scotch Correspondent," F. R. Batchelour, "Dræreg Kcalb," "T. D."

BOOKS AND PAPERS RECEIVED.

- 'Waterford Mirror.'
- 'London Express.'
- 'Glasgow Medical Journal.'
- 'The Medical Profession.' By Walter Rivington, B.A., M.B., &c. Dublin: Fannin and Co. 1879. From the College.
- 'The Medical Profession in the Three Kingdoms in 1879.' By Thomas Laffan. Dublin: Fannin and Co. 1879. From the College.
- 'Dental Register.'
- 'Dental Cosmos.'
- 'Missouri Dental Journal.'
- 'Monthly Review of Dental Surgery.'
- 'Le Progrès Dentaire.'
- 'Dosimetric Medicine.'
- 'Correspondenz Blatt für Zahnärzte.'
- 'L'Odontologia.'
- 'Gazette Odontologique.'
- 'Announcement of the Royal College of Dental Surgeons of Ontario.'
- 'Journal of the Chemical Society.'
- 'Medical Press and Circular.'
- 'Dental Advertiser.'
- 'Johnson's Dental Miscellany.'
- 'Deutsche Vierteljahrsschrift.'
- 'Dental Luminary.'
- 'Transactions of the Odontological Society.'
- 'Anales de la Sociedad Odontologica de la Habana.'
- 'A Course of Lectures,' by Durancé George, M.R.C.S.E. From notes taken by John Caldcleugh, L.D.S.R.C.S.E.

ERRATA.

- Page 646, line 5 from top, *for* prominent, *read* permanent.
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|--------|-----|---|---|------------------------------|
| „ 693, | „ 4 | „ | „ | disease, <i>read</i> disuse. |
| „ 700, | „ 4 | „ | „ | Hel, <i>read</i> HCl. |

British Journal of Dental Science.

No. 286. LONDON, DECEMBER 15, 1879. VOL. XXII.

Dental Surgery and Medicine.

ON SEPARATING TEETH.

By J. H. KYAN, Esq., L.D.S. Eng.

IF there are any practitioners who still use india rubber for separating teeth as a preliminary to stopping, let me advise them to discontinue doing so, and employ cotton wool instead. India rubber acts too rapidly, and sets up an amount of inflammation in the roots which renders the operation of stopping exceedingly painful. Cotton, on the contrary, acts slowly, but quite as effectively, and does not, as a rule, occasion the slightest inflammation. The method I employ of introducing the cotton, so as to operate efficiently, was discovered quite by accident, and I detail it with pleasure, as I feel confident that it will be found of great use to those unacquainted with the power of expanding when moistened, which dry cotton possesses.

Suppose the object to be to separate the superior centrals so as to expose to view the approximal surfaces (too close together to enable the decay to be seen), take a tuft of dry cotton and pull it in pieces, so as to bring the fibres parallel with each other. Reduce one end of the tuft of cotton to a thread by twisting it between the finger and thumb, and leave the other end bushy and thick. The thread can easily be passed between the closest teeth, and the thick end being inside the mouth at the back of the teeth, the thread must be drawn forwards out of the mouth, and for this purpose it should be seized hold of by a small pair of very fine pliers, or, better still, a pair of what are called Dental trephining forceps, by turning which the thread is wound round the nose of the pliers or forceps, and forming a soft protection to the enamel from contact with the steel of the instrument, at the same time gradually separates the teeth with a power which has scarcely any limit, and must therefore be exercised with discretion. The point at which to stop must be when there is no pain, but only a feeling of discomfort. The ends of the cotton tuft may then be cut off pretty close to the enamel by means of a curved pair of scissors.

In the course of a few hours, when the cotton has become wetted by the moisture of the mouth, the teeth will have separated to a degree quite beyond expectation. To prevent the closing up of the space during the operation of stopping, when, of course, the cotton has to be removed, a small wedge of wood must be inserted between the teeth as close up to the gum as possible, so as to be out of the way, and the end can be cut off close to the teeth with a pair of nippers. The wedge must be carefully removed after the operation is completed, and the teeth will close together far more rapidly than they consented to separate.

To many of your readers who have favourite devices of their own for accomplishing the object which I have described my remarks will appear valueless, but there will be some, no doubt, who will find them of use, and they are welcome.

Mechanical Dentistry.

DENTAL ALLOY.

THE correspondence referring to the melting of scraps of Dental alloy into an ingot curiously enough does not refer to the one special cause of difficulty, *i.e.* the crucible. Dentists, as a rule use plumbago, and when once Dental alloy has been fused in a plumbago crucible it is almost useless, owing to the formation of the brittle carbide of platinum. Dental alloy must be fused by a blast flame, (such as the injector furnace) in *fire-clay* crucibles, and should be stirred with the stem of a clay tobacco-pipe the instant before pouring.—THOS. FLETCHER.

STENT'S MODELLING COMPOSITION

AND AMBER AND CELLULOID CEMENT.

WE have received from Mr. Stent some excellent specimens of his modelling composition, and we certainly like it very much. Original inventors rarely reap the reward they deserve for their ingenuity, their first idea being often adopted and improved by others, so that the original article is almost forgotten. In this case, however, we feel justified in saying that practitioners may with confidence use this the "original article," which the inventor, Mr. Stent, has improved without parting with any of the good qualities which at first brought it into notice. We think our readers would do well to send for and try some specimens of this composition, which we feel sure they will not regret—using in turn with others. Of the amber cement we cannot yet speak, not having had time to give it a trial; but it seems to promise well for temporary purposes.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON.

FROM NOVEMBER 1ST TO NOVEMBER 30TH, 1879.

Extractions	{ Children under 14	524
	{ Adults	695
Under Nitrous Oxide		251
Gold Stoppings.....		79
White Foil ditto		33
Plastic ditto		342
Irregularities of the Teeth treated mechanically		21
Miscellaneous Cases		264
Advice Cases		106

Total..... 2315

JOHN BERNARD MAGOR,
Dental House Surgeon.

British Journal of Dental Science.

LONDON, DECEMBER 15, 1879.

THE year 1879, which is now rapidly passing from us, has been a busy and eventful one in the history of Dentistry. New institutions, new schools, new societies, new ideas have sprung up all around us.

We have not space sufficient to enable us to do more than just glance at the chief events of the past twelve months, the first of which is the establishment of the degree of L.D.S. at the Royal College of Surgeons of Edinburgh, and the organization of a Dental Hospital and School in that city. The Faculty of Physicians and Surgeons of Glasgow quickly followed, and on that body granting the diploma of L.D.S. several enterprising Dentists of Glasgow induced the authorities of Anderson's College to found a Dental School in that great educational centre.

On March 3rd the Dental Reform Committee called a meeting of Dentists to render to them an account of their stewardship—a full report of that meeting will be found at p. 179 of our issue for April, 1879. It was then resolved to

establish a new society of Dentists, to be called the British Dental Association, to be governed for a time by the members of the Dental Reform Committee, past and present. As one of these the Editor of this Journal became a member of the Administrative Board of the new society. Although, as we expressed in our March leader, we had some misgiving as to the ultimate result of such an association, with such a title, that seems to indicate a separation from the medical body, yet, according to promise, we loyally supported it, until we found that it was being carried out on principles wholly divergent from those upon which the Act was originally suggested and ultimately obtained. Feeling that he could not honestly or consistently continue in the new association, the Editor retired therefrom, as will be seen by his letter published at p. 632 of our issue for October 15th. What the results of this step may be to the 'British Journal of Dental Science' the future alone can show, but there are signs that indicate that a time is approaching when all those who value liberality and independence, must rally round and support this Journal, which has fought the Battle of Progress for now 23 years.

The establishment of the British Dental Association was quickly followed by that of the Western Counties Dental Association, and, thanks to the energy of Mr. Browne Mason, of Exeter, it progressed so rapidly that on August 4th the Inaugural Meeting was held at Exeter with the most complete and gratifying success. This society has our warmest sympathies, though again we must confess to a dislike to the title for many reasons which we will not now enter upon. Nor will we now do more than allude to the question of affiliation, except to say that we trust this will not be effected with any existing Dental body without long and careful deliberation.

In July the Medical Council finally determined upon the curriculum of study to be required of the future Dental student. A table of the requirements of this curriculum will be found at page 424 of our August issue for 1879.

On July 31st of this year the Dentists Register was finally closed to existing practitioners, and on September 14th

the first printed copy was issued. Its appearance was the signal for a great outcry of indignation from the Dentists, at the appearance of sundry names thereon, and a corresponding outburst of defiance from those who were objected to. Of this subject we had more than enough in our pages, and seeing that the same arguments are repeated over and over again, *ad nauseam*, we trust that the British Dental Association will lose no time in testing the question if they mean to do so at all; though we have reason to believe that that body will be found, when brought to action, to have considerably modified their exclusive intentions, in view of the defiant attitude of their opponents, which has gone so far as to bring forth the threat of a trade combination of the chemists against them, with a view of testing the question.

We are by no means so regardless of our position as Dentists as to set up as advocates of the Chemist, *per se*, but we are strong advocates of that regard for EXISTING RIGHTS, a loud profession of which *before* the passing of the Act alone enabled it to get through Parliament; and it is as advocates also of consistency and honesty, that we now deprecate trying to kick down the ladder by which we have risen.

When in March last we advocated the establishment of a "Dental Act Enforcement Committee," to carry out the provisions and spirit of the Dentists Act, we must confess we never contemplated such a stirring up of the muddy waters of the past as is taking place, but we did think that careful watch would be kept in the future over the entry into the practice of Dentistry of unqualified persons, and that sharp justice would be measured out to any daring individual who should presume, after July 31st, 1879, to *call* himself a Dentist without being qualified to do so either by Diploma or Registration; judging by the letter of Mr. de Lessert and the accompanying card, published on another page, the evasion of the Act is so simple that we fear, as regards the public, the labours of the Detective Committee will be almost thrown away.

The publication of the Register brought to light another grievance with which we confess we sympathise; it is that of the possessors of the American degree of D.D.S., and that

our sympathy with them is not of recent date will be seen by a reference to our original sketch of a proposed Dental Act, wherein it will be seen, at p. 577 in our December issue for 1870, that we advocated the recognition of the D.D.S. as a registerable title. We most certainly endorse to its fullest extent, the decision of the Medical Council to refuse registration to all who, after the passing of the Act, take degrees from any college, American or otherwise, whose standard of education is below that of the Royal College of Surgeons of England, we believe our feeling is shared by many American practitioners, and, indeed, by many of those who are now petitioning the Council to recognise their degree on the Register. It must be remembered that most of these gentlemen have earned their degree by a great expenditure, not only of money, but of time and steady application, and, indeed, hard labour in acquiring that amount of what Dr. Bogue aptly terms finger deftness, which until lately was considered, except by a very few, to be the only talent required of a Dentist. It should be remembered also that most of these gentlemen have certainly availed themselves to the utmost of the very best methods of education which were at the time open to them, and on these grounds, besides others which we cannot now enter upon, we do think it would be only just that they should be allowed to register their degree. At the same time we cannot refrain from adding that they would have a far greater amount of sympathy and assistance from their professional brethren in England were they not too much in the habit of proclaiming to their patients, and in society journals, that there are no Dentists in Europe to compare with themselves. A little more professional modesty on their part would ensure to them a greater degree of professional respect; but our last words apply rather to past times than the present, for recent association with some of these gentlemen has satisfied us that they have become more sensible of the mistakes some of them have made in this respect, and we feel satisfied that further intercourse between English and American Dentists will result in less apparent coldness on the part of the former, and more care on the part of the latter not to give cause for it.

To return to the events of the year we may, *apropos* of the above subject, point to the fact that several American Colleges have this year considerably amended and improved their educational standard, whether as a result of the action of the English Medical Council or not we cannot say; but if not it is a happy coincidence.

On Monday, October 27th, the Dental Reform Committee, which has accomplished so much good work, was finally dissolved. Originally planned in the pages of this Journal, subsequently adopted by a meeting held at Manchester, in August, 1875, which was called by Mr. Sidney Wormald for a very different purpose (according to his own statement in our pages), it was guided to a successful commencement on March 17th, 1879, by the Editor of this Journal. He then resigned the management of its future career to older hands. How Mr. Tomes and Mr. Turner with unceasing watchfulness subsequently conducted it through a difficult parliamentary career until the object of its formation, a "Dentists Act," was attained, is now matter of history. That their labours are widely appreciated by their professional brethren we trust will be shown by the amount of the testimonial now preparing for them.

Among the important events of the year, important, we venture to think, not only to ourselves, but to Dentists generally, we must include the change of THE BRITISH JOURNAL OF DENTAL SCIENCE from a monthly to a bi-monthly journal. How far this has proved satisfactory to the Dental public we have no means at present of judging, save by the large increase in the number of subscribers and by the numerous private letters of approval we have received. We have effected the change at a considerable pecuniary loss to ourselves, and it will not be until the end of 1880 that we shall be at all able to gauge by our receipts how far our effort to meet the want expressed by many, for a medium of more frequent communication has been substantially appreciated by the Dental public. In announcing the change in our September issue, we intimated our intention of opening our pages freely to all parties, but even liberality must yield somewhat to discretion; and we cannot but feel that our

liberality has of late been somewhat abused, not only in the views advocated, but in the manner of advocating them.

As we have before said, we are not a trade journal, but a professional journal, and as such can no longer tolerate, in our pages, the open advocacy of unprofessional practices and theories. We trust many of our correspondents will take this hint in good part, and whilst continuing to give us their support by communicating good practical matter, will refrain from sending us communications which in future we can only consign to the waste-paper basket.

With these slight exceptions, our pages are open to all parties, and we feel sure that no correspondent whose communications are of any real value will take offence at what we have written, but will one and all aid us in supporting, against all comers, the utility and dignity of their old friend,
THE BRITISH JOURNAL OF DENTAL SCIENCE.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

ORDINARY MEETING, MONDAY, DECEMBER 1ST, 1879.

EDWIN SAUNDERS, Esq., President, in the Chair.

THE following gentlemen were proposed for election at the meeting:—Mr. Baxter Visick and Dr. W. H. Thompson, both of 41, Brook Street; Dr. W. Grove Elliott, of 39, Upper Brook Street; and Mr. Morton A. Smale, of Edgeware Road, as resident members. And Messrs. J. L. F. Pike, of Dumfries; Herbert Coate, of Cheltenham; Martin Henry, of Folkestone, and F. Alexander Ewing, of Manchester, as non-resident members.

Messrs. Charles Foran, of Eastbourne; G. W. Parkinson, of Sackville Street, Piccadilly; Francis Ewbank, of Savile Row, and Dr. Allen Taylor, of Peshawur, India, were ballotted for, and elected members of the society.

Mr. CANTON then related the following extraordinary case. In December last he was requested to see a lady who had for some time been troubled with difficulty in swallowing, which was supposed to be caused in some way by some artificial plates which she was wearing. Mr. Canton visited the patient, and on examining her mouth found that the tongue was pushed upwards and backwards

by a mass of mucous tissue almost as large as the tongue itself, and looking like a second badly-shaped tongue lying under the other. The patient was wearing a complete upper plate of gold and vulcanite, with springs which were attached to a lower gold plate, on which was one molar tooth on each side; but Mr. Canton could neither see nor feel any bar of gold connecting these teeth; but on trying to raise the lower plate he found that he could not do so. On further examination he found that the gold bar, which usually rests against the back of the front teeth, was completely imbedded in a mass of firm fibrous tissue. The patient stated that she had not had the plates out of her mouth for *five years*, and that the difficulty in swallowing had been gradually coming on and increasing for a long time.

Mr. Canton having obtained the assistance of Mr. Willis, proceeded to remove the plates. He first cut the springs down to the lower swivels, and removed the upper plates. Mr. Willis then held one side of the lower plates with a pair of pliers, and drew it forwards, whilst Mr. Canton divided the fibrous tissue with a curved bistoury; the bulging mass of mucous tissue before described being much in the way, rendered this part of the operation a matter of some difficulty. The fibrous band was quite one eighth of an inch in thickness, extended quite from one molar to the other, and felt like gristle or scirrhus under the knife. No hæmorrhage followed; two rough molar stumps had to be extracted from the lower jaw a few days later, and about a fortnight afterwards Mr. Canton put in a new upper suction plate of celluloid. He had not seen the patient for several months, so could not say how far the mass under the tongue had diminished; but he heard that the patient now suffered no inconvenience from it. He could not get her to admit that she had suffered any great amount of pain during the time that the bar had been ulcerating into the sublingual tissue. Cases somewhat similar had been brought before the society by Mr. J. S. Turner and by Mr. Moon; but he thought they were sufficiently rare to deserve recording.

Dr. WALKER said he thought the following cases sufficiently rare to justify him in bringing them before the notice of the society. A young lady, aged 16, came to him complaining of dental irritation. He found that she had ten temporary teeth in the upper jaw and the same in the lower, but all were spread and movable. There were two permanent molars in the lower jaw, none in the upper. Dr. Walker extracted the loose temporary teeth, and all sym-

ptoms of irritation ceased: he had since put in upper and lower dentures. This young lady's brother, who was two years older, had also only two six-year old molars in the lower, and no permanent teeth in the upper jaw.

Mr. VANDERPANT exhibited a first lower molar affected with exostosis which he had removed from a gentleman nearly seventy years of age. He also showed a curious old bone-plate which had been worn by its late owner for a great number of years.

The SECRETARY then showed an abnormal wisdom tooth which had been presented to the Museum by Mr. Farnham, of Ipswich. It had a supplementary cusp growing from one of the roots, low down; this was covered with enamel and resembled a bicuspid or first temporary molar. Several unsuccessful attempts at extraction had been made before the patient applied to Mr. Farnham.

He also showed some chucks for lathes made by Mr. Richardson, of Derby, and adapted for carrying sand-paper, buff-sticks, &c. The most useful seemed to be one ending in a square-tapered mandril, on which a corundum wheel could be fitted true in a moment.

Mr. HUTCHINSON then showed a photograph (lent by Dr. Birdwood, C.S.I., of the India Office) of a bas-relief found in a Hindoo temple near Allahabad. It represented a group of monkeys trying to extract a giant's tooth by means of a very primitive-looking instrument to which an elephant had been attached by tackles. This piece of sculpture was more than 2000 years old, the temple having been built about the year 300 B.C.

The PRESIDENT then called upon Professor Flower to read his paper—"Notes on the Specimens of Abnormal Dentition contained in the Museum of the Royal College of Surgeons of England."

Professor FLOWER said that when some three months ago the President called upon him, and requested him to read a paper before the Society, he was much troubled about the choice of a subject. For when, in 1871, he read a paper dealing with some facts in natural history, no debate followed, which the president explained by saying that though the paper was interesting the subject was unfamiliar to the members. He had this time chosen a subject which was probably more familiar to many of those present than it was to himself—some at least of his audience had made it their special study: it had moreover been fully treated of in books, especially in a valuable work lately published in France by Professor Magitôt. Still, in his position as curator of the museum of the Royal College of Surgeons, a consi-

derable number of specimens of abnormal dentition came under his notice, and he thought it might be interesting to the society, and perhaps also useful to those who were engaged in investigating this department of Odontology, if he were to give a short account of the principal examples which were to be found in the museum under his charge. The collection which he had passed under review contained nearly 1200 human crania belonging to various races of men and very different grades of civilisation, and although it might be allowed as a general rule that the tendency to dental irregularities was much less marked amongst barbarous races than in those of high civilisation, still this rule was not without some remarkable exceptions to which he should have to call attention. In addition to the human specimens the museum contained some singular examples of abnormal dentition in the lower animals, amongst whom these deviations were much more rare than in man. Professor Flower then proceeded to give a classified list of the human specimens, premising that it would be of no value in affording an indication of the relative frequency of deformities in the upper and lower jaws, since the lower jaws in his collection were by no means so numerous as the crania. He had found five cases of irregularities of excess. In one skull, that of an adult Englishman, there were six incisors in the upper jaw, the supernumerary pair being placed behind the normal incisors. A male Japanese skull showed one extra incisor in the upper jaw, situated behind the right central. A negro and a Hindoo each had two canine teeth on the right side, and an Australian black had an extra molar.

As to deficiency of teeth. There were no examples of a deformity which he believed was not uncommon in our race, viz. the absence of both upper lateral incisors, though in an Australian female, one upper lateral was absent, and the other very small. In four cases there was absence of one central; two of these individuals were Tasmanians, and a third belonged to a race closely allied to them. Cases of retention of permanent teeth in their alveolus, which was usually accompanied by some misdirection in growth, and by persistence of the corresponding milk tooth, were numerous. This happened more frequently in the case of the canines than to any of the other teeth, a fact which was probably connected with the late development of this tooth. Illustrating this deformity, he had an interesting series of specimens which had belonged to the late Mr. Walter Jones, of Worcester, and which had been described by Mr. James A. Salter, in the 'Guy's Hospital Reports' for 1859 (ser. 3, vol. v). The most remarkable of these was a case in which

both upper canines were directed almost horizontally inwards and forwards, so that their apices met at the middle line, the crowns of these teeth taking up all the space usually occupied by the incisors. In two cases one of the upper canines had grown upwards, projecting in one case through the floor of the right nostril, whilst the other was erupted just below the infra-orbital foramen.

Retention of the premolars appear to be less common than in the case of the canines. In one of Mr. Jones's specimens the posterior premolars on both sides of the lower jaw were retained in their alveoli, and were lying obliquely with their crowns resting against the roots of the teeth in front.

There were about half-a-dozen specimens of persistent milk molars; *e.g.* in an Australian female, evidently an adult, both posterior milk molars were retained with no appearance of absorption of their roots: the premolars, which should have succeeded them, were fully developed, but were concealed in the alveolus in an oblique position.

With regard to irregularities of position, the teeth most frequently affected seemed to be the premolars and canines. Thus, in two cases the canines were rotated on their axes, their labial surfaces looking inwards and being in contact with the lateral incisors. In two other cases the first right upper premolar was displaced inwards and rotated on its axis, the second premolar and the canine being in contact.

Irregularities in the position of true molars appeared to be rare except in connection with the wisdom teeth, and these had been the subject of so many special monographs that he did not think it necessary to say much about them. It had been pointed out long ago that, as a rule, these teeth were larger and stronger in savage races of men than in those who were more civilised, and he had noticed that they were also erupted at an earlier age—*e.g.* in the negroid races the third molars were erupted before the union of the basilar suture, which took place at from eighteen to twenty years of age. But to this rule there were some curious exceptions. Amongst the Tasmanian aborigines—a race now extinct, but which belonged to the very lowest grade of civilisation—the frequency of defective development, irregular position, and tardy eruption of the wisdom teeth was very remarkable. Out of thirty-three perfect adult Tasmanian skulls only eight had normal wisdom teeth, whilst amongst a larger number of the crania of the Australian aborigines (a race nearly allied in many respects to the Tasmanian) not a single case of absence or malposition of the third molar was to be found. In some of the Mongolian tribes also, *e.g.* the Eskimo, these teeth appeared to be frequently absent. Defective wisdom teeth were

not then, as they had been stated to be, a distinctive sign of high civilisation.

Professor Flower concluded by referring to some remarkable specimens of abnormal dentition in the lower animals. Several of these derived additional interest from their history, some having formed part of the original Hunterian collection, whilst one, a spirally twisted elephant's tusk, was described in Crew's Catalogue of the Museum of the Royal Society published in 1681. From the Royal Society it had gone to the British Museum, and from the British Museum to Lincoln's Inn Fields. One of the most curious examples of abnormal dentition in the lower animals was the deformity which had been carefully perpetuated by breeding in the bull dog. In these dogs the upper jaw is unnaturally short, but the teeth are not correspondingly diminished in size, and in order to accommodate themselves to the smaller space the premolars are placed with their long axis transversely, instead of longitudinally in the jaw.

The PRESIDENT said he thought the Society would commend his temerity in calling upon Professor Flower for a paper as much as they would thank Professor Flower for finding time, in the midst of his many engagements, to accede to the request. With regard to the subject in hand, he thought irregularities on the side of redundancy were more common than those of deficiency. He knew a gentleman who had five incisors in the upper jaw; they were all regular in shape and position, so there was no apparent deformity. Another had only two lower incisors, but they were large.

Mr. CHARLES S. TOMES said he remembered seeing a very curious specimen of misplaced canine in one of the Boston museums; it was impacted in the nasal process of the upper maxilla, the crown lying close to the lachrymal duct. With reference to the stunted wisdom teeth in the Tasmanians, this stunting was frequently associated with deficiency of room in the jaw. Any cause which cut short the backward elongation of the jaw would tend to the production of imperfect wisdom teeth, and possibly some arrest of growth of the jaws might be the cause in the race mentioned.

Dr. WALKER said he had met with a remarkable case of retarded eruption of the incisors. A man, aged 60, came to him complaining that his denture did not fit comfortably, and on seeking the cause he found the left central incisor just appearing. It was extracted, but two years later the patient returned; the right central was now coming through, and was also extracted. He had also met with cases of suppressed eruption of the canines and of the wisdom teeth.

Mr. COLEMAN said he knew it was the general opinion that the wisdom teeth were becoming obsolete. But he believed that some, at least, of the cases of missing wisdom teeth might be explained by the fact that the first molars had been extracted at an early age, and the patient, thinking that this had been one of his temporary teeth, would be under the impresssion that he had no wisdom teeth. Still, he knew the wisdom teeth, especially the upper, were often imperfect.

Mr. HENRY said he had met with an interesting case of a canine showing itself at ninety years of age. The patient, an old lady, was wearing a denture at the time. He should be glad to know whether, as a rule, when teeth were apparently absent they might be presumed to be present in the jaw, but unerupted or altogether absent.

Mr. VASEY said he agreed with Mr. Coleman that cases in which the first molars had been extracted at an early age were sometimes thought to be cases in which wisdom teeth were absent. Under these circumstances the third molar generally appeared at an earlier age than usual, might come through at fifteen or sixteen, and was generally also better developed, so that to think that the case was one in which the twelve-year-old molar had been retarded was not an unnatural mistake.

Mr. DENNANT said an instructive case had occurred to him not long since. A lady, aged 28, came and requested him to extract the first left lower molar, which was slightly carious. She had suffered from "neuralgia" for months. On examination he found there was no tenderness about the tooth, and that the "neuralgia" consisted chiefly of great pain in deglutition; the wisdom tooth on that side was absent. He recommended that the second molar, which was perfectly sound, should be extracted; this was done, the patient suffered no more pain, and the wisdom tooth appeared in due course.

Mr. HUTCHINSON asked whether Professor Flower had formed any opinion as to whether the persistence of the temporary tooth which he had spoken of was the cause of the non-appearance of the permanent successor, or only the result of this? The answer to this question was of great importance as a guide to treatment: for instance, in a patient, aged twenty-five, with unerupted permanent and persistent temporary canine, would it be best to extract the temporary tooth or to leave it?

Mr. MUMMERY said he had met with several interesting cases of abnormal dentition. One was that of a clergyman, who had in the lower jaw an extra incisor, quite central. Many years ago he had an opportunity of examining a large

number of Africans. Amongst these he found five individuals, all Ashantees, who had four upper molars; three of them had an extra molar on one side and two on both sides of the upper jaw, but he met with no such excess in the lower jaw. He believed that the imperfect development of the wisdom teeth, which was so common amongst highly educated communities, was intimately connected with brain stimulation. Amongst Africans, if not amongst all uncivilised nations, the wisdom teeth were never missing, and generally highly developed, and even amongst ourselves these teeth were more perfect in agricultural subjects than in the more intellectual classes. It appeared to him as if the force which should go to assist the development of these teeth was diverted to the brain.

Professor FLOWER said he was glad to see that this time his paper had excited something more than a passing interest. Much had been said during the debate about the wisdom teeth, but this was really so large a subject that it was impossible to enter upon it then. He would refer those who were interested to a paper lately published in Italy by Mengozzi. He could not give a satisfactory answer to Mr. Hutchinson's question. It was a fact that in many cases when a temporary tooth persisted the permanent tooth would be found lying below, but this was not invariably the case.

On the motion of the President, Messrs. Thomas Hardy and Gibbins were appointed to audit the accounts for the year, and after a vote of thanks to Professor Flower, Dr. Birdwood, and the other contributors, the meeting terminated.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ORDINARY MEETING, 24TH NOVEMBER, 1879.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceeding meeting were read and confirmed.

Messrs. Mason, Alexander Matthews, H. J. Thornton, and W. A. Turner, were balloted for, and unanimously elected members of the society.

Mr. R. B. Turner was proposed for election.

Mr. ROBBINS showed to the members present a case of cleft palate which had been under his care, and which he had successfully treated by the application of an artificial piece.

Mr. MAGOR exhibited microscopic specimens of rodent enamel and epithelioma labii.

Mr. C. D. DAVIS then read a paper on "The Third Molar."*

A discussion ensued, in which the President, Messrs. Robbins, Price, Read, Robinson, Curnock, and Magor took part.

Mr. DAVIS having replied to the questions put to him, the proceedings terminated, with a hearty vote of thanks to Mr. C. D. Davis for his able, comprehensive, and interesting paper.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

WEDNESDAY, NOVEMBER 19TH, 1879.

S. J. A. SALTER, F.R.S., President, in the Chair.

THE first meeting of the present session was held on the 19th ult., at the rooms of the Association, 11, Chandos Street, Cavendish Square, W., when Mr. J. Russel West, M.B., Dr. W. H. Lovejoy, Mr. Edward Keen, and Mr. John Evans, were proposed as Fellows.

ON THE SENSIBILITY OF DENTINE.

THE PRESIDENT called the attention of the society to some physiological questions relating to the sensibility of dentine, and illustrated his remarks by diagrams. The points enforced were that the dentine is to a great extent endowed with sensibility by its connexion with the nerves of the pulp, but not wholly so, for areas of exposed dentine are sometimes found acutely painful, when touched by steel instruments, in which the tooth-pulp has entirely perished. In such cases the connection of the sensitive dentine with the sensorium must be through the nerves of the periosteum, and he believed that such a nervous connection always exists. Furthermore, in some instances in which there was sensitive dentine, and the pulp still remained quick and alive, the usually received explanation—that the nervous connection was established by a direct radiation along the tubes from the pulp to the sensitive area of dentine—could not hold good, as the intervening dentine might be, and often is, eroded by decay, and yet an outlying mass of dentine remains painful to the touch. In such instances, if the pulp is the source of sensation, it must be established by a circuitous route and by collateral connexions. The President then read extracts from a letter he had received from Mr. Alfred Coleman, in which he stated that he had met with cases of sensitive dentine that could only be explained by the views already propounded.

* This will be published in our next.

RETARDED DENTITION.

Mr. T. EDGELOW made a few brief remarks on a case of retarded dentition that had lately come under his notice. The patient, a girl aged fourteen, epileptic since her birth, had great deficiency of the permanent teeth, the upper and lower incisors being the only teeth that met. She was small, short, had curvature of the spine, and a large head, but there was no syphilitic history. No teeth had ever been removed, and there was no reliable history of the primary teeth. She suffered from great want of masticating power, and Mr. Edgelow thought that, by adapting plates it might be the means of causing the eruption of the other teeth.—*Med. Times and Gaz.*

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

THE NEW PRESIDENT OF THE ODONTOLOGICAL SOCIETY.

I BELIEVE that I am only echoing the voice of the whole profession when I congratulate Mr. Woodhouse upon his nomination to the Presidency of the Odontological Society. For years he has been a very prominent member, taking part in its meetings, assisting in its councils, and in a hundred ways establishing his right to be considered a representative member of our profession. And while we are all indebted to Mr. Woodhouse for so much valuable assistance, I am not aware that he has ever by word or act offended even the most sensitive of his colleagues: even his firmness in advocating those reforms which time has brought about, has been tempered by a personal pleasantness—a natural suavity—calculated to disarm the opposition of party. On all grounds, therefore, Mr. Woodhouse's nomination must be agreeable to the members, and his election sure. It does appear to me, however, that the re-election of old Presidents is hardly a wise proceeding; up to the year 1874 a succession of members had filled the chair, and the coveted distinction is one that rightly appertains to the present more than to a past generation. Having once filled the chair any re-election can hardly express more than has been expressed before. We have amongst us many good men quite worthy of the honour, and I cannot help feeling that this doubling of an office—nearly the only one of distinction the profession has to offer—must keep in the back ground many men whose elevation is not only merited, but whose past services call loudly for recognition.

I do not think that any one will accuse me of unmerited partiality when I support the editor of this Journal in urging the claims of Mr. Samuel Lee Rymer for the highest honour we can bestow upon any member of our body. I have had such unusual opportunities of judging of his singleness of object; his earnest desire to benefit his fellow-practitioners, and the pureness of his motives, that I feel a longer silence would be in the highest sense reprehensible. This is not the place nor would it be becoming in me to do more than support the views the editor has so ably expressed in his last leader—views I have tried to enforce on many occasions. That Mr. Rymer merits this honour every one allows, but all are not so thoroughly acquainted with the influence his name possesses to this day—more particularly in the country; all are not perhaps aware that that influence has ever been directed not only for the public good, but for the strengthening and supporting of the Odontological Society. When he yielded up his power he became as staunch an advocate for that body as its oldest member, and the many years that have passed have seen him loyally co-operating with them in every work for the advancement of our profession. The past Presidents eligible for re-election I feel convinced will allow that Mr. Rymer's claim is a prior one, and one that cannot be passed over much longer.

Bye-law XIX states that the President shall be elected from the resident members, and if Mr. Rymer's abode is just outside the metropolitan circuit or no I will not stay to inquire. This much, however, I am prepared to assert that he has always paid a resident member's subscription, and that subscription having been received he can hardly be debarred from taking office upon so frivolous a pretence.

THE course of Lectures on Dental Mechanics, at the Edinburgh Dental School, begin on Wednesday, the 14th of January, 1880.

APPOINTMENT.

J. B. MAGOR, L.D.S. Eng., son of Mr. Magor, L.D.S. Eng., of Penzance, to be House Surgeon to the Dental Hospital of London.

A CHRISTMAS APPEAL.

AN old and deserving practitioner is in pain and distress. The season is severe, the times bad, but there are few who do not at this season feel inclined to be kind and sympathising with those who have been less fortunate in the battle of life than themselves; to

such we would appeal for a little offering to enable a suffering brother to pass over Christmas time with a little comfort. We may add that Messrs. Ash are aware of and sympathise with the case in question, and will, we are sure, answer any inquiries and receive any subscriptions for it.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

“AN IMPOSTOR.”

To the Editor of the ‘British Journal of Dental Science.’

SIR,—A man, answering the description given by Mr. Merson, called on me some time ago, stating he had been to a Dentist in Paris who was not able to make him comfortable, nor had any one been able to, up to that time. The plate he had had made was a very massive gold one, with a chamber in palate, but he could not keep the piece up. I suggested his trying a vulcanite suction plate, which he agreed to. This was made, and he left to try it. He came back in about a week, saying it did not feel firm enough, and he was afraid of breaking it, as it did not seem comfortable. I then made him a large upper and lower in gold with springs. This pleased him much. He came three or four times afterwards to have them eased a little, when he pronounced them very comfortable indeed, and left to try them again. I need scarcely say he has never returned since, so conclude he *was* very pleased with them. If any Dentist could drop on him after seeing this letter, I would make it still more comfortable for him.

I am, &c.,

A. R. PHILLIPS.

To the Editor of the ‘British Journal of Dental Science.’

SIR,—From a most unexpected quarter my short paper on extraction is pulled to pieces, and a challenge sent me which, let me say, shall be accepted, and practical proof shall be forthcoming that extraction is not a purely scientific operation, as far as the operation and operator is concerned.

The short paper I sent you, and which you so readily inserted, was simply penned to show that it does not at all follow because a man has taken out teeth, skilfully or unskilfully, that he must be regarded as a *bonâ fide* Surgeon-Dentist, or should be, therefore, considered as such, or permitted to register. And to make my deductions complete, I was compelled to drive the logic to the most extreme logical conclusions, by asserting that extraction at the best was a violent mechanical wrench or pull in the dark, and which I again assert it is, and shall further prove.

Still, with care and caution, what we do know, *not what may happen*, we can render the operation somewhat safe. But the very fact of a mishap yet remaining, renders it unscientific.

Now, what will Mr. V. C. Mallan say when I tell him and others that not only is extraction not a scientific operation, but that the whole range of surgery, and mostly so medicine, is not scientific. The whole business is groping in the dark, for there is nothing definite, nothing sure. Years before the small work quoted by Mr. V. C. M. appeared I extracted, and felt sure that the best and safest instruments for extracting teeth were forceps. The truth is, while any danger to life and limb exists under any surgical operations, so as long those surgical operations are not scientific. When science, experience, and knowledge have reduced the danger to *nil*, then surgical operations will admit of being termed scientific, not till then. Mr. V. C. M. shall be satisfied.

I am, &c., GEORGE WARD.

[We publish this letter to show that Mr. Ward is by no means unwilling or unready to face the discussion challenged, but at the same time we are pleased to have to thank him for yielding to our request to allow the matter to drop, as we do not think it would yield much practical benefit.—ED. B. J. D. S.]

To the Editor of the 'British Journal of Dental Science.'

Sir,—The enclosed card, which is the newest thing out "in these parts," may interest you. It tends to prove that the "Dental Act" is not a complete success.

There are plenty of people who will read such cards and be quite satisfied to entrust their mouths to the care of men who shirk the title of Dentist.

I am, &c., CHAS. G. DE LESSERT.

[The following is the card alluded to, but we have taken the liberty of slightly altering the name and address.—ED. B. J. D. S.]

ARTIFICIAL TEETH.

MR. CATCHALL,
GRUBB STREET, DOLLAR TOWN.

Single Teeth from 1s. Sets, complete, from £1 1s.
Including all charges.

Teeth Stopped, Scaled, or Extracted. Consultation Free.

Attendance by Appointment at Patient's Private Residence, Free of Charge.

Communications received from "Sine Invidia," "A Dentist," C. Stent, W. Chisholm (Edinburgh), "Colonist," J. H. Kyan, A. R. Phillips, A. Phillips, George Ward, Thos. Fletcher, J. W. Langmore, M.D., E. C. Johnston, "Veritas," C. D. Davis, Andrew Wilson, G. De Lessert.

INDEX.

	PAGE
ACCIDENTAL encroachments upon the pulp	703
Accidents, one of many, that may arise in the extraction of teeth	7
Accounts, a Dentist's	781
"A Colonial Dentist" on the Royal College of Surgeons of England and registered Dentists	740
Acrostic, an, Thomas Gill Palmer	782
Action of platinum	763
..... physiological, of carbolic acid on the nervous system .	767
Address delivered before the American Academy of Dental Science	255
Adhesion in flat smooth plates, means of obtaining	531, 569
Administration of nitrous oxide	52
Advertising Dentists	439, 440
..... plea for	590, 637
Alexander, Mr. A. B., on a case of necrosis of the superior maxillary bone	297
Alloy, Dental	595, 748, 790
Alphabetical list of licentiates in Dental surgery	487
Alveolar abscess, cure of, by the extraction and replantation of the affected teeth	215
Amalgam fillings, protrusion of	29
America, Dental law in	453
American Academy of Dental Science, address delivered before the	255
..... Dental Association	738
..... Medical College Association	672
Anatomical examinations at the Royal College of Surgeons	672
Anatomist's Vade Mecum, the Pocket Gray, or	702
Anæsthesia by administration of protoxide of nitrogen under pressure	386
..... the discoverer of	620
..... under pressure	760
Anæsthetic, chloral as an	757
Anæsthetics, the recent investigations of the Committee on	54
Anderson's College, Dental School in	341
..... Glasgow	463
..... lecturers on Dentistry	332

	PAGE
Angry Dentists	755
"An Impostor"	786
Annual general meeting of the Dental Manufacturing Com- pany, Limited	451
..... of the National Dental Hospital	66
..... of the Odontological Society	72
..... of the Students' Society of the Dental Hospital of London	221
Annual meeting of the Birmingham Dental Hospital	446
..... of the Dental Hospital of London	166
Answers to correspondents 48, 112, 160, 240, 296, 344, 392, 440, 456, 548, 596, 644, 692, 740, 788	
Antrum, injuries and diseases of the	1, 49, 113, 161
Apothecaries, Society of	459
Appeal for recovery of Dental registration fee	439
..... of Mrs. Cafferata	294
..... on behalf of the widow of the late Mr. Philip Cafferata, L.D.S., of Sunderland	46, 108
Appointment of Sub-Committees of Investigation	739
Appointments 46, 108, 236, 292, 335, 436, 547, 589, 684, 738, 785	
Arsenic in Dentistry	787
Ash and Son's apparatus	437
"Assistant" on vulcanite cases	111
Association of Surgeons Practising Dental Surgery	773, 804
Atmospheric pressure, method of testing amalgam and other fillings by	24
..... retention of upper plates by	393, 547
Attempt to start a British Dental Association	253
Aut Cæsar aut Nullus	732
Awarding of the Saunders' scholarship	415
 BACON, JOSIAH, death of	340
Balkwill, Mr. F. H., on Fletcher's furnace	445
..... on mechanical work, illustrated by cases in practice	8, 57
..... on the possibility of making porcelain gum blocks in the ordinary Dental workroom of general practice	530, 557
Barrett, Mr. W. C., on new principles in Dental pathology	611
Bate, Mr. J. J. R., on fracture of both jaws and its treatment 531, 549	
Baylis, Mr. G. W., on the recovery of registration fees	687
Beavis, Mr. G., on a case in practice	647
Beef wine	782
Beers, Mr. W. G., on the Canadian Licentiate in Dental Sur- gery	642

Beers, Mr. W. G., on the Royal College of Dental Surgeons, Canada	295
Benevolence, and its application to the present needs of the Dental profession, by Mr. J. Dennant	224
Bensted, Mr. C. S., on gold and amalgam fillings	594
Beresford Place, Dental Hospital of Dublin	737
Best, Mr. A. H., on gold caps for plastic fillings	645
Bey, elevation of Mr. R. Waller to the dignity of	701
Bichloride of ethidene as an anæsthetic	661
Bicuspid and molars, management of the proximate surfaces of	313, 506
Blots in the Dental Register	670
Birmingham Dental Hospital—Annual meeting	446
Board of Examiners in Dental Surgery	459
Boiling water in ten seconds	283
<i>Bonâ fide</i> , definition of	648
Books, condensed list of, for a Dental student	500
Bosnia, Dentistry in	588
Bowne, Dr. E. H., on the discoverer of anæsthesia	620
Brindley, Mr. W. F., proposed sub-committee of investigation, by	640
British, colonial, and foreign Dental qualifications	622
..... Dental Association	237, 288, 455, 485, 632
..... attempt to start a	253
..... bye-laws of the	369
..... conditions for membership of	405
..... representative board of the	713
..... <i>versus</i> the chemists	577
'British Journal of Dental Science'	686
..... fortnightly issue of	441, 501
'British Medical Journal,' Mr. S. H. Cartwright and the	121
Browne, Mr. A., on an old Dental advertisement	237
Buccal cavity, chancres of the tonsils and the	766
Bye-laws of the British Dental Association	369
CAFFERATA, the late Mr. P., appeal on behalf of the widow of	46, 108
Calendar of the Dental Hospital of London	471
Canada, Royal College of Dental Surgeons of Ontario	548
Canadian L.D.S.	642, 687
Carbolic acid, physiological action of, on the nervous system	767
Caries, conditions induced by actual contact of	703
Carious tooth, case of facial paralysis arising from a	56
Cartwright, Mr. S. H., and the 'British Medical Journal'	121
Case for opinion of Mr. Fitzgerald	720
..... of facial paralysis arising from a carious tooth	56
..... imperfect dentition	164

	PAGE
Case of Mr. J. P. Murray	662
..... operation for cleft palate	750
..... secondary dentine, by Mr. G. H. Marriott	531
Cases in practice	400, 443
..... chapters on mechanical work illustrated by	8, 57
Celluloid, durability of	387
..... injector, Winderling's	351, 390, 436
..... on the working of	530, 562
"Cellulose" on Winderling's celluloid injector	390
Chambers Street, 30, Edinburgh Dental Hospital and School	768
Chancres of the tonsils and buccal cavity	766
CHEMICAL DEPARTMENT—	
Continuous gum work	504
..... by Mr. F. H. Balkwill	402, 445
..... by Mr. T. Fletcher	252, 357
Fletcher's translucent filling	356, 403
Mercury for Dental purposes	358
Purification of mercury	404
Royal College of Surgeons in Ireland	504
White fillings	64
Chemists and registration	624, 650
Chemist's assistant as "a Dentist in <i>bonâ fide</i> practice"	581
..... assistants, registration of as <i>bonâ fide</i> Dentists	589
Chloral as an anæsthetic	757
Chloroform, death from	759
Cholera infantum, teething as a cause of	324
Civic presentation to a Dentist	782
Cleft palate, case of operation for	750
..... congenital, hard-rubber appliance for	172
Clifford-Eskell, Mr. A., on posting proofs	685
Clinical lectures at the National Dental Hospital	636
Coating, new pink rubber for	781
Composition and Properties of various patent fillings, report of the sub-committee on	729
Conditions caused by the complete exposure to external irritants	705
..... for membership of British Dental Association	405
..... induced by actual contact of caries	703
Congenital cleft palate, hard-rubber appliance for	172
Conservative treatment of the dental pulp, review of the	703
Continuous gum work	252, 357, 402, 445, 504, 553, 603, 606
Coleman, Mr. A., on administration of nitrous oxide	52
..... Messrs. C. Ash and Sons' apparatus	437
..... Mr. Fothergill's case of cystic disease	401
Condensed list of books for a Dental student	500
Conservative treatment of the Dental pulp	663
"Constant Subscriber" on unregistered Dentists	687

	PAGE
Contribution on the replantation of teeth	241
CORRESPONDENCE—	
Advertising Dentists, by "A Stonehouse Dentist"	440
..... by "T. D."	439
"An impostor," by Mr. J. Merson	786
Appeal for recovery of Dental registration fee, by Mr. G. Robinson	439
Appointment of sub-committees of investigation, by Mr. H. Merryweather	739
Arsenic in Dentistry, by "T. D."	787
Ash and Sons' apparatus, by Mr. A. Coleman	437
British Dental Association, by "Drareg Kcalb"	337
..... by Mr. J. S. Turner	455
..... by Mr. J. S. Tomes	237
'British Journal of Dental Science,' by Mr. G. Ward	686
Canadian L.D.S., by "J. C."	687
..... by Mr. W. G. Beers	642
Dental alloy, by "An Old File"	595
..... bill, the, by McDowall	239
..... chairs, by "Finis"	595
..... chemists, by "Drareg Kcalb"	787
..... diploma, the, by Mr. E. Cox	46
..... by Mr. F. Richardson	47
..... by "Studens"	47
..... registration and the chemists, by "Justicia"	639
Dentists Act, by "Dispense Justice Impartially"	690
..... by Mr. L. S. Stocks	691
..... fees, by "L.D.S. Eng."	685
Dewes, Mr. H., on his paper read before the Students' Society on Extraction of Teeth	294
Durability of Celluloid, by "Dentist"	388
..... by "Mechanical Dentist"	387
Errata, by Mr. E. Cox	111
Exemption from jury service, by "J. T. H."	685
Extraction of teeth, by "Justice"	238
Fatal poison in a tooth	685
Gold and amalgam fillings, by Mr. C. S. Bensted	594
Hempel's patent detachable springs and swivels, by Mr. A. Hempel	110
"In practice with pharmacy," by "Odonto"	739
Inverted commas, by Mr. H. B. Stevenson	343
Irish Dental diploma, by Mr. F. Richardson	687
Irish licentiates, by "L.D.S. Eng."	644
Medical students, by Mr. E. M. Tod	640
Membership of the British Dental Association, by "Drareg Kcalb"	343

CORRESPONDENCE (*continued*)—

PAGE

Membership of the British Dental Association, by "Malva"	294
Mrs. Cafferata's appeal	294
Museum of the Odontological Society, by Mr. T. R. Eden	110
New Dental bill, the, by Mr. W. W. Mildren	342
New Registration Act, by "A Dentist"	391
Nickelling steel instruments, by Mr. C. W. Dunn	786
Operating chairs, by Mr. H. S. Ryding	389
Patent-safety combination vulcaniser and press, by "Nil Desperandum"	389
Plea for advertising, by "Father O."	637
....."J. C. V."	590
.....general examination in Dentistry, by Mr. J. J. Musgrave	438
Posting proofs, by Mr. A. Clifford-Eskell	685
Present needs of the Dental profession, by Mr. A. K. Phillips	594
.....Mr. H. Laurence	391
Proposed sub-committees of investigation, by Mr. W. F. Brindley	640
Recovery of registration fees, by Mr. G. W. Baylis	687
Registration, Dental, by "Fair Play and No Favour"	238
.....of chemists' assistants as <i>bonâ fide</i> Dentists, by Mr. J. J. Musgrave	589
Retention of upper plates by atmospheric pressure, by Mr. W. A. Hunt	547
Royal College of Dental Surgeons, Canada, by Mr. G. Beers	295
.....by "J. C."	111
.....of Ontario, Canada, by Mr. J. B. Willmott	548
.....Surgeons of England and registered Dentists, by "A Colonial Dentist"	740
Singular cases, by Mr. A. King	439
Students' Society of the Dental Hospital of London, by Messrs. F. N. Pedley and J. B. Magor	109
Tomes and Turner testimonial fund, by Mr. A. Hill	342
Unregistered Dentists, by "A Constant Subscriber"	687
Vulcanite cases, by "Assistant"	111
Warning to Dentists, by "Detective"	343
Whatford, Mr. F. R., on Mr. H. Dewes' paper on Extraction of teeth	294
Winderling's celluloid injector, by "Cellulose"	390
.....by Mr. L. N. Winderling	436
Cotterell, Mr. C. V., on a case of retarded eruption	646
Cox, Mr. E., on the Dental diploma	46
.....errata in his letter	111

	PAGE
Crapper, Mr. J. S., on the manufacture of continuous gum-work	553
Criticisms and reflections on Dentistry	571
Cure of alveolar abscess by the extraction and replantation of the affected teeth	215
Cutlery, exhibition of	334
Cystic disease, Mr. Fothergill's case of	401
.....of upper maxilla	298
DAISH, Mr., on Dental microscopy	140
Davis, Mr. H., on dental caries	223, 299, 346
..... Mr. M., on hæmorrhage	587, 597
Dead teeth, remarks respecting the causes of failures in treating	725
Death during extraction of a tooth	673
..... from chloroform	759
Decay, dental, the disuse of the jaws in its bearing on the production of	751
Definition of the term <i>bonâ fide</i>	648
Degrees, foreign, how they may be obtained	765
Demonstrations at the Dental Hospital	466
Dennant, Mr. J., on benevolence and its application to the present needs of the Dental profession	224
Dental Act, working of the	94
..... alloy	595, 748, 790
..... Association, Western Counties	288
..... bill	239
..... caries	299, 346
..... by Mr. H. Davis	223
..... chairs	595
..... chemists	787
..... decay, disuse of the jaws in its bearing on the produc- tion of	693, 751
..... diploma	46
..... of the Irish College of Surgeons	291
..... of the Royal College of Surgeons of Edin- burgh, regulations to be observed by candidates for the	42
..... Hospital, demonstrations at the	466
..... Hospital of Dublin, Beresford Place	737
..... of Glasgow	475, 738
..... of London and Medical School	465
..... annual meeting	166
..... calendar of the	471
..... dinner of the past and present students of the	736, 773
..... ordinary meetings of the Students' Society of the	79, 140, 222, 803

	PAGE
Dental Hospital of London, report of cases treated at the,	15, 66.
	119, 171, 253, 304, 404, 447, 505, 648
..... Students' Society of the	109, 484
..... injector, Winderling and Sons'	333
..... irregularities, by Mr. A. Jones	222
..... law in America	453
..... licence of the Royal College of Surgeons	287
..... licentiates of the Royal College of Surgeons in Ireland	546
..... Manufacturing Company, limited, annual general meeting	451
..... microscopy, by Mr. Daish	140
DENTAL NEWS AND CRITICAL REPORTS—	
Associations of Surgeons Practising Dental Surgery	773
British Dental Association—Bye-laws	369
Dental Hospital of London Medical School—distribution of prizes	411
..... Reform Committee	713
..... general meetings	32, 124
Dinner of the past and present students of the Dental Hospital of London	773
Edinburgh Dental Hospital and School, 30, Chambers Street	768
Faculty of Physicians and Surgeons of Glasgow	772
General meeting of the Dental profession	179
Lectures on Dentistry in Anderson's College, Glasgow	332
Licentiates in Dental Surgery and the Odonto-Chirurgical Society—anniversary dinner	140, 280
..... annual meeting	218, 272
Mr. Fletcher's translucent filling	153
Odonto-Chirurgical Society—list of members	220
..... ordinary meetings	23, 87, 139
Odontological Society of Great Britian	724, 773
..... annual general meeting	72
..... monthly meetings	18, 127, 210, 265, 325, 362, 796
Regulations to be observed by candidates for the Dental diploma of the Royal College of Surgeons of Edinburgh	42
Representative board of the British Dental Association	713
Royal College of Surgeons of Edinburgh	41
..... of England	771
Sensibility of dentine, by Mr. S. J. A. Salter	804
Students' Society of the Dental Hospital of London—	
annual general meeting	221
Extraordinary meeting	583
Ordinary meetings	70, 140, 222, 731

DENTAL NEWS AND CRITICAL REPORTS (<i>continued</i>)—	PAGE
Tomes and Turner testimonial fund	373
Western Counties Dental Association—inaugural meeting	509
Dental pathology, new principles in	611
..... practitioners, education of	448
..... new regulation for qualification of	67
..... profession, benevolence, and its application to the present needs of the	224
..... general meeting of	179
..... profession, present needs of	335, 376, 595
..... Reform Committee	636, 713
..... general meetings	32, 124
..... registration	43, 238, 630
..... and the chemists	639
..... Surgeon, 'Lancet' on the title of	407
..... Surgeons, Dublin Association of	291
..... teachers' memorial to the General Medical Council	44
..... pulp, review of the conservative treatment of the	663, 703
..... school in Anderson's College	341
..... students	570
DENTAL SURGERY AND MEDICINE—	
Administration of nitrous oxide, by Mr. A. Coleman	52
Case in practice, a, by Mr. E. M. Tod	443
..... by Mr. G. Beavis	647
..... of cystic disease of upper maxilla, by Mr. E. Fothergill	298
..... facial paralysis arising from a carious tooth, by Mr. W. L. Poundall	56
..... hypertrophy of the gums, by Mr. C. Whiteley	398
..... imperfect dentition, by Mr. J. T. Fripp	164
..... retarded eruption, by Mr. C. V. Cotterell	646
..... secondary dentine, by Mr. G. H. Marriott	551
Cases in practice, by Mr. G. Robinson	400
Contribution on the replantation of teeth, by Dr. L. Ribolla-Nicodemo	241
Dental caries, by Mr. H. Davis	299, 346
..... Hospital of Dublin	503
Disuse of the Jaws in its bearing on the production of dental decay, by Mr. J. H. Redman	693, 751
Fracture of both jaws and its treatment, by Mr. J. J. R. Bate	549
Gold caps for gutta percha fillings, by Mr. W. G. G. Jones	603
..... plastic fillings, by Mr. A. H. Best	645
Hæmorrhage, by Mr. M. Davis	597
Impressions for upper suction cases, by Mr. A. Gabell	503
Injuries and diseases of the antrum, by Mr. J. B. Magor	1, 49, 113, 161
Mr. Fothergill's case of cystic disease, by Mr. A. Coleman	401
New departure, the, by Mr. C. Matthew	345, 402

DENTAL SURGERY AND MEDICINE (<i>continued</i>)—	PAGE
Nitrous oxide, by Mr. W. H. Hope	6
Notes on a case of necrosis of the superior maxillary bone, by Mr. A. B. Alexander	297
On separating teeth, by Mr. J. H. Kyan	789
One of many accidents that may arise in the extraction of teeth, by Mr. F. A. Huet	7
Recent investigations of the Committee on Anæsthetics, by Mr. J. C. Morison	54
Remarks on tartar and its removal, a few, by J. H. Redman	741
Replantation	304, 552
Retention of upper plates by atmospheric pressure, by Mr. W. A. Hunt	393
Saliva apparatus, by Mr. P. Orphoot	115
Toothache and neuralgic pains	552
Dental Surgery, Board of Examiners in	459
..... Association of Surgeons practising	804
Dentine, sensibility of	804
Dentistes de France, Société Syndicale des	382
"Dentist, A," on the new registration Act	391
"Dentist," on the durability of celluloid	388
Dentistry, criticisms and reflections on	571
..... in Bosnia	588
..... lectures on, in Anderson's College, Glasgow	332
..... plea for a general examination in	438
..... progress of	610
Dentist's account, a	781
..... Act	689, 690
..... and Dentistry, by Mr. G. Ward	678
Dentists' fees	685
..... register	100, 436, 633, 670
Dentists, warning to	343
Dentition as a cause of diarrhœa	588
..... imperfect case of	164
Depôts	284
De Stain's safety flask	355
Detachable springs and swivels, Mr. Hempel's patent	110
"Detective," a warning to Dentists, by	343
Dewes, Mr. H., on his paper on extraction of teeth	294
..... on the extraction of teeth	79
Diarrhœa, dentition as a cause of	588
Difficult cases, improvements in model making for sand mould- ing in	165
Dinner of the past and present students of the Dental Hospital of London	773
Discoverer of anæsthesia, the	620
"Dispense justice impartially " on the Dentists act	690

Distribution of prizes at the National Dental Hospital and College	305
..... of Dental Hospital of London Medical School	411
Disuse of the jaws in its bearing on the production of dental decay	693, 751
Doctor and Dentist	409
Doctress, a wonderful	449
Double cone-bearing lathe-head	285
“Drareg Kcalb,” on Dental chemists	787
..... on the British Dental Association	237
..... on the membership of the British Dental Association	343
Dublin Association of Dental Surgeons	291
..... Dental Hospital	503
..... the new Dental Hospital for	291
Dunn, Mr. C. W., on nickelling steel instruments	786
Durability of celluloid	387, 388
 EDEN, Mr. T. R., on the museum of the Odontological Society	110
Edinburgh College of Surgeons, regulations	102
..... Dental Hospital and School, 30, Chamber’s Street	102, 474, 633, 768
..... Royal College of Surgeons of	157, 341, 386
..... School of Dentistry	435
EDITORIAL ARTICLES—	
Attempt to start a British Dental Association	253
‘British Journal of Dental Science’ as a fortnightly journal	441
Conditions for membership of British Dental Association	405
Definition of the term <i>bonâ fide</i>	648
Dental students	570
Elevation of Mr. R. Waller to the dignity of Bey	701
Formation and inauguration of a new British Dental Association	120
Fortnightly issue of the ‘British Journal of Dental Science’	501
From one extreme to the other	121
Irish Dental diploma	16
..... Committee and the Royal College of Surgeons in Ireland	17
Laws of the new British Dental Association	359
New President of the Odontological Society	752
New regulation of the Royal College of Surgeons of England for qualification of Dental practitioners	67
Progress of Dentistry	610

EDITORIAL ARTICLES (<i>continued</i>)—	PAGE
Proposed institution of branches of the Odontological Society throughout the United Kingdom . . .	312
Tomes and Turner testimonial fund . . .	406
Education of Dental practitioners . . .	448
Effects of tobacco-smoking on the teeth . . .	329
Electric light in surgical and Dental operations, by Dr. B. Squire . . .	227
Elevation of Mr. R. Waller to the dignity of Bey . .	710
England, Royal College of Surgeons of . . .	771
Erichsen's, Mr. J. E., address at the distribution of prizes at the distribution of prizes at the London School of Dental Surgery . . .	416
Errata . . .	111
Ether as an anæsthetic . . .	657
Ethidene, bichloride of, as an anæsthetic . . .	661
Europe, the oldest lecturer in . . .	781
Evans, Mr. N., on a base of impaction of a gold plate and false teeth in the œsophagus for upwards of two years . .	653
Examination papers for Dental diploma, Royal College of Surgeons of England . . .	491
..... questions, examples of . . .	491
Examples of questions put by the Dental Examining Board .	491
Exemption from jury service . . .	685
Exercise, outdoor . . .	385
Exhibition of cutlery . . .	334
Exposure to external irritants, conditions caused by the complete . . .	705
External irritants, conditions caused by the complete exposure to . . .	705
Extraction, by Mr. G. Ward . . .	674
..... and replantation of first left under molar . .	243
..... of right central superior incisor . .	242
..... of a tooth, case of death during the . .	673
..... of teeth . . .	79, 238
..... by Mr. V. C. Mallan . . .	776
..... letter from Mr. H. Dewes concerning his paper on . . .	294
..... one of many accidents that may arise in the . . .	7
 FACIAL PARALYSIS, case of, arising from a carious tooth .	56
Faculty of Physicians and Surgeons of Glasgow, 155, 461, 589, 671, 772	
Failures in treating dead teeth, remarks respecting the causes of,	725
"Fair Play and No Favour" on Dental registration . .	238
Fatal poison in a tooth . . .	685

"Father O." on a "plea for advertising"	637
Field, Dr., on gold filling	268
Filling, Fletcher's translucent	153, 356, 403
..... new gutta-percha	385
Fillings, gold and amalgam	594
..... gutta-percha, gold caps for	603
"Finis" on Dental chairs	595
Flask, De Stain's safety	355
Flat smooth surfaces, on a means of obtaining adhesion	531, 569
Fletcher, Mr. T., on a means of obtaining adhesion in flat smooth surfaces	531, 569
..... on continuous gum work	252, 606
..... on the new departure	69
Fletcher's furnace	445
..... instantaneous water heater	340
..... perfected ladle furnace	384
..... translucent filling	287, 356, 403
Forceps, Messrs. Ash and Sons'	334
Foreign degrees, how they may be obtained	765
Formation and inauguration of a New British Dental Associa- tion	120
Fortnightly issue of the 'British Journal of Dental Science'	501
Fothergill, Mr. E., on a case of cystic disease of upper maxilla	298
Fothergill's, Mr., case of cystic disease	401
Fox, Mr. C. J., and the British Dental Association	632
Fracture of both jaws and its treatment	531, 549
..... lower jaw, with loss of two teeth, and their replace- ment	244
France, Société Syndicale des Dentistes de	382
Fripp, Mr. J. T., on a case of imperfect dentition	16
From one extreme to the other	121
Functions of the nerves of taste	365
Furnace, Fletcher's	445
GABELL, Mr. A., on impressions for upper suction cases	503
Gartrell, Mr. J. A., on the working of celluloid	530, 562
Gas-regulating pressure gauge	45, 284, 334
General examination in Dentistry, plea for a	438
..... Medical Council	43, 233, 424
..... Dental teachers' memorial to the	44
Glasgow, Anderson's College	463
..... Dental Hospital	738
..... Faculty of Physicians and Surgeons	461, 671, 772
Gold and amalgam fillings	594
..... caps for gutta-percha fillings	603
..... for plastic fillings	645

	PAGE
Gold filling, Dr. Field on	268
..... plate and false teeth, impaction of, in the œsophagus, for upwards of two years	653
Goodyear Vulcanite Rubber Company	379
Gums, a case of hypertrophy of	398
..... and alveoli, hypertrophy of the	18
Gum work, continuous	504
Gutta-percha fillings, gold caps for	603
..... filling, new	385
HÆMORRHAGE.	597
..... by Mr. M. Davis	587
Hard-rubber appliance for congenital cleft palate, by T. Gun- ning, M.D.	172
Hempel's patent detachable springs and swivels	110
Hepburn, Mr. D., on the effects of tobacco-smoking on the teeth	329
Hibbert, Mr. J. E., on improvements in model-making for sand moulding in difficult cases	165
Hill, Mr. A., on the Tomes and Turner testimonial fund	342
Honour to whom honour is due, by Mr. W. A. Hunt	383
Hope, Mr. W. H., on nitrous oxide	6
HOSPITAL REPORTS AND CASE-BOOK—	
Birmingham Dental Hospital, annual meeting	446
Case of operation for cleft palate, by Mr. E. Woakes	750
Dental Hospital of London, annual meeting	166
National Dental Hospital and College, distribution of prizes	305
..... annual general meeting	66
..... quarterly statement	67
Report of cases treated at the Dental Hospital of London 15, 66, 119, 171, 253, 304, 404, 447, 505, 648 at the National Dental Hospital 253, 310, 447, 505, 609, 700, 749	
The Liverpool Dental Hospital	311
Western Counties Dental Association	404
How foreign degrees may be obtained	765
Huet, Mr. F. A., on one of many accidents that may arise in the extraction of teeth	7
Hunt, Mr. W. A., on honour to whom honour is due	383
..... on retention of upper plates by atmospheric pressure	393, 547
Hypertrophy of the gums and alveoli	18
..... a case of	398
IDENTIFICATION of the Prince Imperial	505

	PAGE
Impaction of a gold plate and false teeth in the œsophagus for upwards of two years	653
Imperfect dentition, case of	164
Impressions for upper suction cases	503, 606
Improvements in model-making for sand moulding in difficult cases	165
Injector, Dental, Winderling and Sons'	333
..... Winderling's celluloid	351
Injuries and diseases of the antrum	1, 49, 113, 161
"In practice with pharmacy"	739
Instantaneous water heater, Fletcher's	340
Inverted commas	343
Ireland, Royal College of Surgeons in	158, 236, 341
Irish College of Surgeons, Dental diploma of	16, 291, 687
..... regulations	102
..... Dental Diploma Committee	17
..... licentiates	644
JACK, Mr. L, on the conservative treatment of the dental pulp	663
..... review of the conservative treatment of the dental pulp by	703
James, P., M.D., on sore throat	69
Jacob, Mr. E. H., on ether as an anæsthetic	657
Jaws, disuse of the, in its bearing on the production of dental decay	693, 751
..... fracture of both, and its treatment	549
"J. C.," on the Canadian L.D.S.	687
..... on the Royal College of Surgeons, Canada	111
"J. C. V.," plea for advertising, by	590
Johnson dental engine, the	286
Jones, Mr. A., on dental irregularities	222
..... Mr. W. G. G., on gold caps for gutta-percha fillings	603
Josiah Bacon's death	340
Josiah Bacon—The Goodyear Vulcanite Rubber Company	379
"J. T. H.," on exemption from jury service	685
"Justice," on extraction of teeth	238
"Justicia," on Dental registration and the chemists	639
KING'S COLLEGE	637
King, Mr. A., on two singular cases	439
Kyan, Mr. J. H., on separating teeth	789
LABORATORY, valuable convenience for the, boiling water in ten seconds	283
'Lancet' on the title of Dental Surgeon	407
Laurence, Mr. H., on the present needs of the profession	391
Law, Dental, in America	453

	PAGE
Laws of the new British Dental Association	359
"L.D.S. Eng." on Dentists' fees	685
..... Irish licentiates	644
Lecturers on Dentistry in Anderson's College, Glasgow	332
Lecturer, the oldest in Europe	781
Lectures at the Medical School	466
Leicester Square, Dental Hospital of London	736
..... 40, Odontological Society of Great Britain	773
Licentiates in Dental Surgery and the Odontological Society—	
Anniversary dinner	140, 280
Annual meeting	218, 272
Licentiates in Dental Surgery, list of	487
List of Licentiates in Dental Surgery	487
..... questions, Royal College of Surgeons in Ireland	108
..... subscriptions, Tomes and Turner testimonial fund	433
LITERARY NOTICES AND SELECTIONS—	
Address delivered before the American Academy of Dental Science	255
Action of platinum	763
Anæsthesia under pressure	760
Angry Dentists	755
Bichloride of ethidene as an anæsthetic	661
British, colonial, and foreign Dental qualifications	622
Dental Association <i>versus</i> the chemists	577
Cartwright, Mr. S. H., and the 'British Medical Journal'	121
Case of Mr. J. P. Murray	662
Chancres of the tonsils and the buccal cavity	766
Chemists and registration	624, 650
Chloral as an anæsthetic	757
Criticisms and reflections on Dentistry, by Mr. L. R. Nicodemi	571
Death from chloroform	759
Discoverer of anæsthesia, the, by Dr. E. H. Bowne	620
Doctor and Dentist	409
Education of Dental practitioners	448
Ether as an anæsthetic, by Mr. E. H. Jacob	657
Hard-rubber appliance for congenital cleft palate, by T. Gunning, M.D.	172
How foreign degrees may be obtained	765
Identification of the Prince Imperial	505
Impaction of a gold plate and false teeth in the œsophagus for upwards of two years, by Mr. N. Evans	653
'Lancet' on the title of Dental surgeon	407
Management of the proximate surfaces of bicuspid and molars, by Mr. S. G. Perry	313, 506
Mycosis in man	623

LITERARY NOTICES AND SELECTIONS (*continued*)—

PAGE

New departure, by Mr. T. Fletcher	69
..... principles in Dental pathology, by Mr. W. C. Barrett	611
..... students	768
On loss of weight, blood-spitting, and lung disease, by H. Dobell, M.D.	178
Physiological action of carbolic acid on the nervous system	767
'Pocket Gray, or Anatomist's Vade Mecum'	702
Posting proofs	621
Proceedings of the General Medical Council and of the Executive Committee in regard to the registration of Dentists	313
Review of the conservative treatment of the dental pulp, by Mr. L. Jack	663, 703
Sore throat, by P. James, M.D.	69
Teething as a cause of cholera infantum	324
"What does the average American M.D. or D.D.S. mean?" by Mr. W. H. Robinson	709
Liverpool Dental Hospital	311
Lower jaw, fracture of, with loss of two teeth, and their replace- ment	244

MAGOR, Mr. J. B., on injuries and diseases of the antrum 149, 113,
161

Mallan, Mr. V. C., on the extraction of teeth 776

"Malva" and the British Dental Association 294

Management of the proximate surfaces of bicuspid and molars 313,
506

Marriage 547

Marriott, Mr. G. H., on a case of secondary dentine 531, 551

Materia medica, Mr. H. Newton on 221

Matthew, Mr. C., on a new departure 345

McDowall on the Dental bill 239

McQuillen, Prof. J. H., death of 236, 292

Means of obtaining adhesion in flat smooth plates, by Mr.
Fletcher 531

"Mechanical Dentist" on the durability of celluloid 387

MECHANICAL DENTISTRY—

Chapters on mechanical work illustrated by cases in
practice, by Mr. F. H. Balkwill 8, 57

Continuous gum work, by Mr. L. Vanderpant 603

..... by Mr. T. Fletcher 606

Dental alloy 748, 790

De Stain's safety flask 355

Fletcher's furnace, by Mr. F. H. Balkwill 445

Impressions for upper suction cases, by Mr. E. R. Showler 606

MECHANICAL DENTISTRY (<i>continued</i>)—	PAGE
Improvements in model making for sand moulding in difficult cases, by Mr. J. E. Hibbert	165
Manufacture of continuous gum work, by Mr. J. S. Crapper	553
Means of obtaining adhesion in flat smooth surfaces, by Mr. T. Fletcher	569
Notes on Dental mechanics, by Mr. C. Robbins	696, 743
Possibility of making porcelain gum blocks in the ordinary Dental workroom of general practice, by Mr. F. H. Balkwill	557
Rotating swivels for springs, by Mr. H. Rogers	63
Winderling's celluloid injector	351
Wood's Dental refrigerator	607
Working of celluloid, by Mr. J. A. Gartrell	562
Mechanical work, chapters on, illustrated by cases in practice	8, 57
Medical School, Dental Hospital of London and	465
..... Lectures at the	466
Medical students	640
..... student, the	640
Medicinal agents in the saliva	673
Membership of the British Dental Association	294, 343
Mercury for Dental purposes	358
..... purification of	404
Merryweather, Mr. H., on the appointment of sub-committees of investigation	739
Merson, Mr. J., on "An Impostor"	786
Messrs. Ash and Sons' forceps	334
Method of testing amalgam and other fillings by atmospheric pressure	24
Mildren, Mr. W. W., on the New Dental Bill	342
Model making, improvements in, for sand moulding in difficult cases	165
Moore, Mr. W. V., on the resolutions of the Western Counties Dental Association	514
Morison, Mr. J. C., on the recent investigations of the Committee on Anæsthetics	54
Mounting teeth	8
Mrs. Cafferata's appeal	294
Murray, Mr. J. P., the case of	662
Museum of the Odontological Society	110
Musgrave, Mr. J. J., a plea for a general examination in Dentistry	438
..... on registration of chemists' assistants as <i>bonâ fide</i> Dentists	589
Mycosis in man	623

	PAGE
National Dental Hospital and College, distribution of prizes	305
..... Students' Society of the	485
..... annual general meeting	66
..... clinical lectures at the	636
..... quarterly statement	67
..... report of cases treated at the	253, 310, 447, 505, 609, 700, 749
Necrosis of the superior maxillary bone	297
Needs of the profession	391
Nerve paste, new	384
Nerves of taste, functions of the	365
Nervous system, physiological action of carbolic acid on the	767
Neuralgic pains, toothache and	552
New Dental Association	234
New British Dental Association, formation and inauguration of	120
..... laws of the	359
New Dental Bill, the	342
..... hospital for Dublin	291
..... departure	69, 87, 345, 402
..... gutta-percha filling	385
..... inventions	45
..... nerve paste	384
..... pink rubber for coating	781
..... president of the Odontological Society	752
..... principles in Dental pathology	611
..... Registration Act	391
..... regulation for qualification for Dental diploma	67
..... students	768
Newton, Mr. H., on materia medica	221
Nickelling steel instruments	786
Nickel plating	384
Nicodemo, Dr., L. R., on the replantation of teeth	241
..... criticisms and reflections on Dentistry	571
"Nil Desperandum" on the patent safety combination vulca- nizer and press	389
Nitrous oxide	6
..... administration of	52
Notes on Dental mechanics	696, 743

OBITUARY—

McQuillen, Professor J. H.	236, 292
Smale, Mr. H.	109
Odonto-Chirurgical Society	454
..... anniversary dinner	140, 280
..... annual meeting	218, 272

	PAGE
Odonto-Chirurgical Society, list of members	220
.....of Scotland	483, 737
.....ordinary meetings	23, 87, 139
"Odonto," in practice with pharmacy, by	739
Odontological Society, annual general meeting	72
.....monthly meetings	18, 127, 210, 265, 325, 362, 796
.....museum of	110
.....new president of the	752
.....of Great Britain, 40, Leicester Square	481, 671, 724, 773
.....proposed institution of branches of, throughout the United Kingdom	312
Œsophagus, impaction of gold plate and false teeth in the, for upwards of two years	653
Old Dental advertisement, an, by Mr. A. Browne	237
Oldest lecturer in Europe, the	781
"Old File, an," on Dental alloy	595
On a case of secondary dentine	551
.....means of obtaining adhesion in flat smooth surfaces	569
On loss of weight, blood-spitting, and lung disease, by H. Dobell, M.D.	178
Ontario, Royal College of Dental Surgeons of	548
On the manufacture of continuous gum work	553
.....possibility of making porcelain gum blocks in the ordinary Dental workroom of general practice	557
.....working of celluloid	562
Operating Chairs	231, 239
Operation for cleft palate, case of	750
Opinion of Mr. Fitzgerald	722
Ordinary Dental workroom for general practice, on the possibility of making porcelain gum blocks in the	557
Orphoot, Mr. P., on saliva apparatus	115
Out-door exercise	385
 PAINLESS OPERATIONS	 230
Palmer, Thomas Gill,—an acrostic	782
Passing events, by "Phosphor"	667, 774
Past and present students of the Dental Hospital of London, dinner of the	773
Past Presidents of the Odontological Society, portraits of	545
Patent fillings, report of the sub-committee on the composition and properties of various	729
Patent safety combination vulcanizer and press	389
Pedley and Magor, Messrs. F. N. and J. B., on the Students' Society of the Dental Hospital of London	109

	PAGE
Perfected ladle furnace, Mr. Fletcher's	384
Perry, Mr. S. G., on management of the proximate surfaces of bicuspid and molars	506
Phillips, Mr. A. K., on the present needs of the Dental profession	594
"Phosphor," on passing events	667, 774
Physiological action of carbolic acid on the nervous system	767
Pink rubber for coating, new	781
Plastic fillings, gold caps for	645
Plating nickel	384
Platinum, action of	763
Plea for advertising	590, 637
..... a general examination in Dentistry	438
'Pocket Gray, or Anatomist's Vade Mecum'	702
Pond's extract	637
Porcelain gum blocks, on the possibility of making, in the ordinary Dental workroom of general practice	530, 557
Portraits of past Presidents of the Odontological Society	545
Possibility of making porcelain gum blocks in the ordinary Dental workroom of general practice, by Mr. F. H. Balkwill	530
Posting proofs	621, 685
Poundall, Mr. W. L., on a case of facial paralysis arising from a carious tooth	56
Practice, cases in	400
Presentation, civic, to a Dentist	782
..... to Mr. L. Read	455
Present needs of the profession	335, 391, 594
President, new, of the Odontological Society	752
President's address at the inaugural meeting of the Western Counties Dental Association	514
..... inaugural address at the meeting of the Odonto- logical Society of Great Britain	132
..... valedictory address at the annual meeting of the Odontological Society of Great Britain	75
Pressure, anæsthesia under	760
..... gauge, gas-regulating	334
Prince Imperial, identification of the	505
Proceedings of the General Medical Council and of the Execu- tive Committee in regard to the registration of Dentists	313
Profession, present needs of the	391
Progress of Dentistry	610
Proposed institution of branches of the Odontological Society throughout the United Kingdom	312
Proposed sub-committees of investigation	640
Protoxide of nitrogen under pressure, anæsthesia by adminis- tration of	386
Protrusion of amalgam fillings	29

	PAGE
Proximate surfaces of bicuspid and molars, management of	313, 506
Pulp, accidental encroachments upon the	703
Purification of mercury	404
QUALIFICATION of Dental practitioners, new regulation for	67
READ, Mr. L., presentation to	455
Recent investigations of the committee on anæsthetics	54
Recovery of registration fees	687
Redman, Mr. J. H., his remarks on tartar and its removal	741
..... on the disuse of the jaws in its bearing on the production of dental decay	693, 751
Refrigerator, Wood's Dental	607
Registered Dental practitioners	579
..... Dentists, the Royal College of Surgeons of England and	740
Registration, chemists and	624, 650
..... fees, recovery of	687
..... of chemists' assistants as <i>bonâ fide</i> practitioners	581, 589, 624
..... of Dentists, proceedings of the General Medical Council and of the Executive Committee in regard to the	313
..... under the Dental Act	626, 653
Regulations of the Royal College of Surgeons in Ireland	102, 464
..... of Edinburgh,	102, 459
..... of England	456
Remarks on tartar and its removal, a few	741
..... respecting the cause of failures in treating dead teeth, by Mr. C. S. Tomes	725
Replantation	552
..... of teeth, contribution on the	241
..... of three inferior incisors	241
Replanting teeth	304
Report of the sub-committee on the composition and proper- ties of various patent fillings	729
Representative board of the British Dental Association	713
Retarded eruption	646
..... Dr. Williamson on	273
Retention of upper plates by atmospheric pressure	349, 547
Review of the conservative treatment of the dental pulp	663, 700
Richardson, Mr. F., on the Dental diploma	47
..... on the Irish Dental diploma	687
Robbins, Mr. C., notes on Dental mechanics, by	696, 743
Robinson, Mr. G., appeal for recovery of Dental registration fee, by	439
..... on cases in practice	400

	PAGE
Robinson, Mr. W. H., "What does the average American M.D. or D.D.S. mean?" by	709
Rogers, Mr. H., on rotating swivels for springs	63
Rotating swivels for springs	63
Royal College of Dental Surgeons, Canada, by Mr. G. Beers	295
Royal College of Physicians and Surgeons of Edinburgh	547
..... of Surgeons	671
..... anatomical examinations at the	672
..... Canada	111
..... in Ireland	158, 236, 341, 589, 634
..... and its Dental licenti- ates	546
..... list of questions	108
..... regulations of the	464
..... of Edinburgh 41, 157, 341, 386, 589, 783	783
..... regulations of the	459
..... to be ob- served by candidates for the Dental diploma of the	42
..... of England	45, 154, 436, 783
..... and registered Dentists	740
..... examination papers for Dental diploma	491
..... regulations of	456
..... <i>viva voce</i> examination in Dental surgery	784
..... the Dental licence of the	287
Rutherford's burr lubricator and stand	286
Ryding, Mr. H. S., on operating chairs	389
SAFETY flask, De Stain's	355
Saliva apparatus	115
..... medicinal agents in the	673
Salter, Mr. S. J. A., on the sensibility of dentine	804
Sand moulding, improvements in model-making for, in difficult cases	165
Scotland, Odonto-Chirurgical Society of	737
Secondary dentine, case of	531, 551
Self-lighting gas burner	285
Sensibility of dentine	804
Separating teeth, on	789
Showler, Mr. E. R., on impressions for upper suction cases	606
Singular cases	439
Smale, Mr. H., death of	109
Société Syndicale des Dentistes de France	382
Society of Apothecaries, London	459
Sore throat	69

	PAGE
Springs, rotating swivels for	63
Stevenson, Mr. H. B., on inverted commas	343
Stocks, Mr. L. S., on the Dentists Act	691
"Stonehouse Dentist, a," on advertising Dentists	440
"Studens" on the Dental diploma	47
Students, new	768
Students' Society of the Dental Hospital of London—	
Ordinary meetings 79, 140, 222, 309, 484, 731,	803
Annual general meeting	221
Extraordinary meeting	583
Students' Society of the National Dental Hospital and College	485
STUDENTS' SUPPLEMENT—	
Alphabetical list of licentiates in Dental Surgery	487
Anderson's College, Glasgow	463
Board of Examiners in Dental Surgery	459
British Dental Association	485
Calendar of the Dental Hospital of London	471
Condensed list of books for a Dental student	500
Demonstrations at the Dental Hospital	466
Dental Hospital of Glasgow	475
..... London and Medical School	465
Edinburgh Dental Hospital and School	474
Examples of questions put by the Dental Examining	
Board	491
Faculty of Physicians and Surgeons of Glasgow	461
Lectures at the Medical School	466
National Dental Hospital and College	472
Odonto-Chirurgical Society of Scotland	483
Odontological Society of Great Britain	481
Regulations of the Royal College of Surgeons in Ireland .	464
..... of Edin-	
burgh	459
..... of England	456
Royal College of Surgeons of England, examination	
papers for Dental diploma	491
Society of Apothecaries, London	459
Students' Society of the Dental Hospital of London	484
..... of the National Dental Hospital and	
College	485
Western Counties Dental Association	486
Suction cases, impressions for upper	503
Superior maxillary bone, necrosis of the	297
Surgeons, Association of, practising Dental Surgery	773, 804
..... practising Dental Surgery, Association of .	773, 804
Surgical and Dental operations, the electric light in	227
Swivels, rotating, for springs	63

	PAGE
TARTAR, a few remarks on, and its removal	741
"T. D.," on advertising Dentists	439
..... on arsenic in Dentistry	787
Teeth, extraction of	776
..... one of many accidents that may arise in the	7
..... on separating	789
Teething as a cause of cholera infantum	324
Thomas Gill Palmer, an acrostic	782
Title of Dental surgeon, 'Lancet' on the	407
Toothache and neuralgic pains	552
Tobacco smoke, effects of, on the teeth	329
Tod, Mr. E. M., on a case in practice	443
..... on medical students	640
Tomes and Turner testimonial fund	342, 373, 406, 547, 677
..... list of subscriptions	433
Tomes, Mr. J., on the British Dental Association	237
..... Mr. C. S., remarks by, respecting the cause of failures in treating dead teeth	725
Tonsils and the buccal cavity, chancres of the	766
Translucent filling, Fletcher's	153, 356, 403
Turner, Mr. J. S., and the British Dental Association	455
Two cases of hypertrophy of the gums and alveoli treated by operation	18
UNDERWOOD, Mr. A., on the functions of the nerves of taste	365
Unregistered Dentists	687
Upper maxilla, case of cystic disease of	298
..... plates, on the retention of, by atmospheric pressure	393
..... suction cases, impressions for	503, 606
VALUABLE convenience for the laboratory—boiling water in ten seconds, by Mr. T. Fletcher	283
Vanderpant, Mr. L., on continuous gum work	603
Vulcanite cases	111
Vulcanizer and press, patent safety combination	389
WALLER, Mr. R., elevation of, to the dignity of Bey	701
Ward, Mr. G., on Dentists and Dentistry	678
..... on extraction	674
..... on the 'British Journal of Dental Science'	686
Warning to Dentists	343
Water heater, Fletcher's instantaneous	340
Weight, on loss of, blood-spitting and lung disease	178
Western Counties Dental Association	288, 404, 486, 669
..... dinner	532
..... inaugural meeting	509

Western Counties Dental Association, president's inaugural address at the meeting of the	514
..... resolutions	514
"What does the average American M.D. or D.D.S. mean?"	709
Whatford, Mr. F. R., on Mr. H. Dewes' paper on extraction of teeth	294
White fillings	64
Whiteley, Mr. C., on a case of hypertrophy of the gums	398
Williamson, Dr., on retarded eruption	273
Willmott, Mr. J. B., on the Royal College of Dental Surgeons of Ontario, Canada	548
Winderling and Sons' Dental injector	333
..... Mr. L. N., on Winderling's celluloid injector	436
Winderling's celluloid injector	390, 351, 436
Wine, beef	782
Woakes, Mr. E., on a case of operation for cleft-palate	750
Wonderful doctoress	449, 544
Wood's Dental refrigerator	607
Working of celluloid, by Mr. J. H. Gartrell	530
..... the Dental Act, by Mr. J. Tomes	94

LIST OF ILLUSTRATIONS.

Apparatus for administration of nitrous oxide, by Mr. A. Coleman	52
Apparatus for testing amalgams, by Mr. J. R. Brownlie	25
Appliances for congenital cleft palate, by Mr. T. Gunning	175, 176, 177
Cystic disease of upper maxilla, by Mr. E. Fothergill	299
Dental Manufacturing Company's self-lighting gas burner	286
De Stain's safety flask	355
Forceps, made by Messrs. C. Ash and Sons	334
Gartrell's steam pressure gauge and gas regulator	567
Improved model for sand moulding in difficult cases, by Mr. J. E. Hibbert	165
Saliva apparatus, by Mr. P. Orphoot	115
Squire's Dr., electric lanterns	229
Tin trays for the moulding of celluloid, by Mr. J. A. Gartrell	564
Winderling's celluloid injector	351—4
Wood's Dental refrigerator	608

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